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Psychological Bulletin

EDITED BY
SAMUEL W. FERNBERGER, Univ. of Pennsylvania

HOWARD C. WARREN, Princeton University (*Review*)
JOHN B. WATSON, New York (*J. of Exp. Psych.*)
SHEPHERD I. FRANZ, University of California, Southern Branch, Los Angeles, California (*Monographs*)
MADISON BENTLEY, University of Illinois (*Index*)

WITH THE CO-OPERATION OF

B. T. BALDWIN, University of Iowa; W. V. BINGHAM, Carnegie Institute of Technology; J. E. COOVER, Stanford University; W. T. HERON, University of Kansas; K. S. LASHLEY, University of Minnesota; J. H. LEUBA, Bryn Mawr College; M. F. MEYER, University of Missouri; R. M. OGDEN, Cornell University; R. S. WOODWORTH, Columbia University.

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MADISON BENTLEY, University of Illinois (*Index*)
SAMUEL W. FERNBERGER, Univ. of Penn. (*Bulletin*)
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Many Distinguished Psychologists

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Vol. 21, No. 9 September, 1924

THE PSYCHOLOGICAL BULLETIN

1. GENERAL

938. PEPPER, S. C., Misconceptions Regarding Behaviorism. *J. of Philos.*, 1923, **20**, 242–244.

Professor Pratt's recent article gives us two misconceptions of behaviorism. One of these is that it denies the existence of consciousness and the other is that a behavioristic account of consciousness cannot have validity. The question is as to whether all people who are willing to admit consciousness into their "metaphysical universe" and not willing to admit it into their "psychological universe" are to be set to one side and the issue narrowed down to a question of dealing with consciousness according to the method of Watson. A behaviorist needs but take the ground that to be self-consistent there is nothing mental not capable of description in objective terms, *i.e.*, take the attitude of the parallelist. There is no reason why behaviorism should not agree well with a metaphysical dualism—but so long as conscious has no unique efficiency, there is no reason why behaviorism should stand or fall with materialism. The behavioristic account of mind is a very desirable one and should not suffer loss because this is the only way in which the facts of mind may be systematized. T. R. GARTH (Denver).

939. TOLMAN, E. C., Mr. Mursell's Concept of Sensation. *J. of Philos.*, 1923, **20**, 271–272.

Mr. Mursell has slipped into a fallacy when he proposes that behaviorists identify sensations with receptor responses. A receptor process is subject-matter for the physiologist and for him a sensation is defined in a set of similarities and differences between stimuli, *i.e.*, the manner in which the organism classifies the given stimulus. The

aim of behaviorism must be describing the "structuralist's" phenomena better than does the "structuralist," not in denying it. It would define these objectively. T. R. GARTH (Denver).

940. FRANK, L. K., The Locus of Experience. *J. of Philos.*, 1923, **20**, 327–330.

It is believed by the writer that much misunderstanding regarding certain facts of behavior may be avoided by resorting to experimentation, by the use of laboratory method rather than dialectics. The question is stated by Professor Lovejoy, to wit: In the universe of physical scientists (from which the psychic is denied) how does the past experience of an organism, especially man, operate to affect his present behavior and in what manner or form does that past experience persist into the present? This is a poser for the materialists and the pragmatists. We may find the answer to this question in the work of Pavlow, Jacques, Loeb, Yerkes, Triplett and others in their experimentation with the conditioned reflex. Here in the organism the past experience affects the behavior of the present simply by the modification of the organism's structure-function-irritability. The locus of past experience is resident in the neuromuscular mechanism not as "past experience" but as alterations in the above mentioned mechanism. The "past is recovered" because it is not lost. Learning and even planning are to be accounted for as conditioned reflexes. Instrumentalism is simple and clear when we avoid the survivals of animism and academic complications. T. R. GARTH (Denver).

941. THOMPSON, G. H., On Hierarchical Order Among Correlation Coefficients. *Biometrika*, 1923, **15**, 150–160.

Discussion to show that a high intercolumnar correlation does not imply the presence of a general factor and can be explained by random group factors. D. A. LAIRD (New Haven).

942. WISHART, G. M., and MCCALL, J., An Ergometer Adaptable for Either Hand or Foot Movements. *J. of Physiol.*, 1923, **58**, 92–97. D. A. LAIRD (New Haven).

943. WALSTON, C., The Philosophy of Harmonism in Its Psychological Bearings and Future Experiments. *Brit. J. of Psychol., Gen. Sec.*, 1923, **14**, 199–205. J. E. ANDERSON (Yale).

944. THOMSON, G. H., Note on "Hierarchical Order" Among Correlation Coefficients. *Brit. J. of Psychol., Gen. Sec.*, 1923, **14**, 218. J. E. ANDERSON (Yale).

945. DUNLAP, K., A Simple and Accurate Method of Recording Speech. *J. of Compar. Psychol.*, 1923, **3**, 379–388.

Probably one of the most valuable contributions to psychological apparatus and technique has been made by Dunlap in his sound-recording device; this apparatus certainly seems to fill a long-felt need in a great many problems of great interest. The device consists of a microphone transmitter, linked in circuit with a dry cell and a string galvanometer, a camera for the photographing of deflections of the galvanometric mirror and sensitized camera-paper, and a source of light directed upon the mirror. Very interesting records are shown by cuts. H. R. CROSLAND (Oregon).

2. NERVOUS SYSTEM

946. HARTMAN, F. A., Production of Epinephrin by the Adrenal Cortex. *Science*, 1923, **58**, 74.

Where medulla has been destroyed tests reveal the presence of epinephrin in the cortex. D. A. LAIRD (New Haven).

947. HARTMAN, F. A., and HARTMAN, W. E., The Production of Epinephrin by the Adrenal Cortex. *Amer. J. of Physiol.*, 1923, **65**, 623–634.

Adrenal cortex inhibited contractions of intestine and dilated the pupil, indicating a secretion of epinephrin. D. A. LAIRD (New Haven).

948. YAMADA, S., Über die Leitungsgeschwindigkeit des Nervenimpulses in den sympathischen Hautnerven des Frosches. *Arch. f. d. ges. Physiol.*, 1923, **200**, 221–227.

The speed of the nervous impulse in the sympathetic fibers in the frog is about 1/10 of the velocity in medullated fibers. D. A. LAIRD (New Haven).

949. MORPURGO, B., Nerve Regeneration from One Into the Other of Two Rats United in Siamese Pairs. *J. of Physiol.*, 1923, **58**, 98–100.

The capacity for nerves to grow from one rat into another was experimentally demonstrated for the sciatic nerve. Upon regeneration sensitivity and reflexes appear as usual. D. A. LAIRD (New Haven).

950. COOPER, S., and ADRIAN, E. D., Frequency of Discharge from the Spinal Cord of the Frog. *J. of Physiol.*, 1923, **58**, 209–229.

The electromyogram of the gastrocnemius muscle of the frog shows a series of large waves whose rate varies with the temperature of the cord although the frequency of the total number of waves of all sizes may be unaltered by change in temperature. If these large waves represent the rate at which the nerve center discharges as a whole, while the small waves are caused by the discharge by a small number of nerve cells out of phase with the rest, the fact that the frequency of the large waves varies with the temperature of the cord but not with that of the muscle indicates that the rate of discharge is determined mainly by the rate of discharge over the motor nerve and not by the muscle itself. It is concluded that the nerve cells of the spinal cord do not discharge at a frequency greater than about 120 per second at 15° C. L. T. SPENCER (Yale).

951. ADRIAN, E. D., The Conception of Nervous and Mental Energy. (I.) *Brit. J. of Psychol., Gen. Sec.*, 1923, **14**, 121–125.

If we use the word "energy" in its purely physical sense, the conception of nervous energy is unnecessary, and that of mental energy is impossible. If we use it in another sense, we must be careful to define its meaning exactly or we run the risk of assuming that it must necessarily follow the rules which have been found to govern the transformations of physical energy in material systems. But it would be foolish of me to suggest that psychologists as a whole are not alive to these risks, and I am quite ready to believe that the conception of mental energy, properly defined, may be as necessary to psychology as that of physical energy is to physiology. J. E. ANDERSON (Yale).

952. HEAD, H., The Conception of Nervous and Mental Energy. (II.) "Vigilance; A Physiological State of the Nervous System." *Brit. J. of Psychol., Gen. Sec.*, 1923, **14**, 126–147.

A summary of the experimental evidence showing that in both spinal and decerebrate preparations, the nature of the response elicited upon stimulation varies greatly according to the general state of vitality in the particular part of the central nervous system which has been isolated from higher control. The state of high grade physiological efficiency of such a preparation which makes possible these differences in response is termed "vigilance," since one would hardly think of such a preparation as "conscious." The significance of the term "vigilance" in connection with automatic actions, posture, and other integrations is brought out. Psychical and somatic behavior are dependent on the state of "vigilance" of the nervous system rather than upon consciousness, which is itself an expression of "vigilance." The unity of the mind is the resultant of all those psychical processes which can in any way modify consciousness. These interact and profoundly influence one another, to produce in the end a continuum of highly purposive adaptations. This is not the result of a synthesis of diverse elements, but is the final consequence of the struggle amongst various forms of response. Should any one of them be eliminated, there is no gap in the continuity of consciousness; the loss of function can be recognized solely by a definite act of observation. J. E. ANDERSON (Yale).

953. MYERS, C. S., The Conception of Nervous and Mental Energy. (III.) *Brit. J. of Psychol., Gen. Sec.*, 1923, **14**, 148–152.

What we do know about nervous activities is that they are capable of affecting muscular activity and hence presumably physical forms of energy. So long as we recognize that living tissue displays activity which can ultimately manifest itself as an increase or decrease of physical work, no harm can result from applying the term "energy" even though we are ignorant of its nature and are unable to directly measure it in terms of mass and velocity. Still more cogent becomes the acceptance of a special nervous energy when we come to deal with the central nervous system. In our present ignorance I see nothing in such acceptance necessarily incompatible with the doctrine of the conservation of energy. J. E. ANDERSON (Yale).

954. HAMMETT, F. S., The Rôle of the Thyroid Gland in the Growth of the Brain and Spinal Cord from the Point of View of Phylogenetic Evolution. *Amer. J. of Physiol.*, 1924, **68**, 129.

Thyroidectomy reduces the growth of the brain of the albino rat to a much greater degree than the growth of the spinal cord. It is inferred that the spinal cord has developed its characteristic structure and composition during phylogeny independent of the thyroid apparatus, while the brain, and especially the cerebral hemispheres, have developed along with the thyroid from the beginning. M. J. ZIGLER (Princeton).

955. ROGERS, F. T., Physiological Studies of the Marsupial Brain. *Amer. J. of Physiol.*, 1924, **68**, 139–140.

A study of the responses of an opossum, whose cerebral cortex was removed, leaving the corpora striata and optic thalamus in situ, to various kinds of sensory stimuli. M. J. ZIGLER (Princeton).

3. SENSATION AND PERCEPTION

956. PAYNE, W. W., and POULTON, E. P., Visceral Pain in the Upper Alimentary Tract. *Quart. J. of Med.*, 1923, **17**, 53–80.

Record of contractions obtained by inflated rubber bag which was swallowed show that the pains were accompanied by a contraction of the viscus concerned. In many instances the pain was felt only during the relaxed phase, suggesting stimulation of the nerves by stretching. D. A. LAIRD (New Haven).

957. FRÖHLICH, F. W., Über den Einfluss der Farbe, Sättigung, und Ausdehnung des Lichtreizes auf die Empfundungzeit und den zeitlichen Verlauf der Gesichtsempfindung. *Arch. f. d. ges. Physiol.*, 1923, **200**, 392–419.

The duration of visual sensations varies with the color of the light used, being greatest with lights of low intensity. D. A. LAIRD (New Haven).

FARMER, E., ADAMS, S., and STEPHENSON, A., A Study of Visual After-Sensations with Special Reference to Illumination in Coal Mines. *Brit. J. of Psychol., Gen., Sec.*, 1923, **14**, 153–163.

After noticing the effect of the miner's lamp in producing persistent and annoying after-sensations, an experiment was under-

taken in the laboratory to determine the extent of the effect and devise methods of mitigating the evil. The results show that the number and duration of visual after-sensations in the dark room depend on the retinal region receiving the stimulus. They are at a maximum at the fovea and a minimum at the periphery. Their number and duration are greatly reduced when the light is rendered more diffused. A treatment of the outer protecting glass to make it translucent was greatly appreciated by the miners, who found their work more comfortable, eye-strain less. The intensity of illumination owing to such treatment of the glass is reduced 28 per cent. Nevertheless, in the great majority of persons examined the visual acuity was not reduced but improved. J. E. ANDERSON (Yale).

959. BUSH, A. D., and MCCRADIE, R. S., The Effect of Colored Backgrounds on Area of Color Fields. *Amer. J. of Physiol.*, 1924, **68**, 103–106.

This study begins with a review of Baird's investigation of the color zones of the peripheral retina. The authors undertake the task of mapping the color zones for red, green, yellow and blue by colored papers "carefully selected from Bradley color papers" which are "as free from admixtures as possible." Precautions for fatigue and after-image were observed. There were six observers and the field of vision was mapped for every color in succession with a white, blue, red and green background. The extent and contour of the color zones is found to vary with the background on which the stimulus is observed. When the stimulus is presented on a like background, the red is much contracted, blue is considerably contracted and the green somewhat. For the blue and yellow zones, the field is greatest with red as background; the red when blue is used as background, and the green when either white or green serve as background. The blue and yellow and the red and green fields are not found to be coextensive as Baird concluded. M. J. ZIGLER (Princeton).

960. HOLSOPPLE, J. Q., Some Effects of Duration and Direction of Rotation on Post-Rotation Nystagmus. *J. of Compar. Psychol.*, 1923, **3**, 85–100.

The duration of post-rotation nystagmus was found to be longer after fifteen turns on Dunlap's electrically-driven chair than after ten turns, with a speed of one turn in every two seconds and with the rates of acceleration and retardation common to this apparatus.

This result held at various stages of practice. Variations within the records of one person are so great that a norm of nystagmus-duration cannot be attained by throwing together the results of a great many persons, without determining the variability of each person. That a longer rotation should produce a more prolonged nystagmus is explained on the basis of the hypothesis that, in the shorter durations, the acceleration-effects have not disappeared entirely and therefore they interfere with the retardation effects; in the longer durations this condition does not prevail. Practice, or repeated series of rotations, in a given direction reduces the after-nystagmus for that direction but does not influence the after-nystagmus for the other direction. A uniform decrease of after-nystagmus in all subjects within a day's practice cannot be assumed. The article contains twelve graphs, six tables, and seven bibliographical references. H. R. CROSLAND (Oregon).

5. MOTOR PHENOMENA AND ACTION

961. HARTMAN, F. A., and HARTMAN, W. B., Influence of Temperature Changes in the Secretion of Epinephrin. *Amer. J. of Physiol.*, 1923, **65**, 612–622.

Cooling of the skin increases the output of adrenalin in the absence of excitement and struggling. D. A. LAIRD (New Haven).

962. TANBERG, A., Internal Secretions Between Mother and Child. *Acta Med. Scand.*, 1922, **56**, 33–51.

The thyroid of the fœtus does not function so long as the mother's is intact; when the mother's thyroid is removed that of the fœtus begins to function. The mother does not absorb any of this secretion from the foetus. D. A. LAIRD (New Haven).

963. BOOTHBY, W. M., and SANDIFORD, I., The Calorigenic Action of Adrenalin Chlorid. *Amer. J. of Physiol.*, 1923, **66**, 93–122.

Adrenalin injected in amounts equal to normal secretion increased the rate of heat production. D. A. LAIRD (New Haven).

964. FERNANDEZ-VICTORIO, A., Las Endocrinopsicopatias. *Siglo Méd.*, 1923, **71**, 201–203.

A case of paranoid schizophrenia was given a mixed organotherapy following which marked improvement was noted in the mental condition. D. A. LAIRD (New Haven).

965. Biedl, A., Die Nervöse und Hormonale Beeinflussung der Verdauungsstätigkeit. *Wein. med. Wochensch.*, 1922, **72**, 885–889, 935–939.

Hunger and thirst appear to be aroused by stimuli carried by the blood to the cerebral cortex rather than through nerves. It may be due to hormone action. Thyroid extract was found to stimulate intestinal peristalsis. D. A. Laird (New Haven).

966. Yoshimoto, M., The Action of Extracts of Endocrine Glands upon Motor Nerve and Muscle. *Quart. Jour. of Exper. Physiol.*, 1922, **13**, 5–40.

Extracts from all the endocrines in concentrations from 0.1 to 1.0 per cent depress the excitability of the nerves but do not affect their conductivity. Very feeble effects were noticed on the muscles. D. A. Laird (New Haven).

967. Hartman, F. A., and Loder, M. M., Conditions Determining Adrenal Secretion. *Amer. J. of Physiol.*, 1923, **64**, 1–34.

Adrenalin demonstrated to be in the blood of cats after section of the superior cervical ganglion, which removed the control of the central nervous system on the secretion. Under these conditions barking dogs did not affect the adrenalin output, although cold and asphyxia did. This indicates an emergency function of the adrenals. D. A. Laird (New Haven).

968. Lyon, D. M., Does the Reaction of Adrenalin Obey Weber's Law? *J. of Pharmacol. and Exper. Therap.*, 1923, **21**, 229–235.

When doses of injected adrenalin are increased arithmetically the blood pressure responses are in logarithmic relation. D. A. Laird (New Haven).

969. Kusakabe, S., The Relation Between Thyroid Function and Healing of the Muscle Wound. *Nihon-Naikagakukai-Zasshi*, 1923, **11**, 17–40.

Wounded muscles degenerate or heal slowly in thyroidectomized animals; opposite results are noted in animals fed thyroid extract. D. A. Laird (New Haven).

970. KOBE, T., The Effect of Thyroid on the Movements of the Stomach and Intestines. *Nihon-Naikagakukai-Zasshi*, 1923, **11**, 233–280.

Digestive movements accelerated following feeding of thyroid preparations in men and rabbits. Thyroidectomy is followed by enfeebled movements. D. A. LAIRD (New Haven).

971. KOGA, Y., and MARANT, G. M., On the Degree of Association Between Reaction Times in the Case of the Different Senses. *Biometrika*, 1923, **15**, 346–372.

Association between acuity of different senses is low and greatly altered by age. Reaction time associations are higher and not influenced by age. Reaction time appears to depend but little upon acuity of the sense. D. A. LAIRD (New Haven).

972. MACKEITH, N. W.; PEMBREY, M. S.; SPURRELL, W. R.; WARNER, E. C.; WESTLAKE, H. J. W. J., Observations on the Adjustment of the Human Body to Muscular Work. *Proc. of the Roy. Soc.*, 1923, **B95**, 413–439.

Study of the phenomena of second wind in running shows that the respiration, circulation, and excretion, by kidneys and skin are chiefly concerned. L. T. SPENCER (Yale).

973. LIDDELL, E. G. T., and SHERRINGTON, C. S., Recruitment Type of Reflexes. *Proc. of Roy. Soc.*, 1923, **B95**, 407–412.

Reflexes showing "recruitment" phenomena are enumerated. L. T. SPENCER (Yale).

974. LIDDELL, E. G. T., and SHERRINGTON, C. S., A Comparison Between Certain Features of the Spinal Flexor Reflex and of the Decerebrate Extensor Reflex Respectively. *Proc. of the Roy. Soc.*, 1923, **B95**, 299–339.

The phenomena of "recruitment" in certain reflexes of fresh motor neurones is discussed in connection with characteristic variation in the contractive phase. L. T. SPENCER (Yale).

975. BANTING, F. G., and GAIRNS, S., Factors Influencing the Production of Insulin. *Amer. J. of Physiol.*, 1924, **68**, 24–27.

Experiments upon dogs indicate that there is a continual secretion of insulin by the islet cells. A sudden increase of the sugar con-

tent of the blood stimulates the islets to produce a sufficient quantity of insulin to reduce the blood sugar to its normal level. It is experimentally demonstrated that the secretion of insulin does not necessarily depend upon the nerve supply to the islets. M. J. ZIGLER (Princeton).

976. HAMMETT, F. S., Studies of the Thyroid Apparatus. IX. The Effect of the Loss of the Thyroid and Parathyroid Glands at Seventy-five Days of Age on the Gross Growth of the Albino Rat. *Amer. J. of Physiol.*, 1924, **68**, 1–23.

Albino rats were thyro-parathyroidectomized and parathyroidectomized, some at seventy-five days of age and others at one hundred days of age, so as to study the influence of these organs on growth in body length, body weight and tail length of both male and female. Thyroid and parathyroid removal at seventy-five days occasioned a decline in gross growth in both sexes, body weight showing greater retardation than body length. Removal of these organs at one hundred days gave the same general results except that the extent of the retardation was still greater. In both groups—the seventy-five days and the one hundred days—females show less resistance to the growth inhibiting effects of thyroid deficiency. Parathyroidectomy produces a greater retardation of growth in the male than in the female both at seventy-five and one hundred days of age. The authors conclude that "there are definite age and sex differences in the growth response of the albino rat to thyroid and parathyroid deficiencies; and that the two experimental procedures produce qualitatively and quantitatively different results." M. J. ZIGLER (Princeton).

977. FISHER, N. F., Attempts to Maintain the Life of Totally Pancreatectomized Dogs Indefinitely by Insulin. *Amer. J. of Physiol.*, 1924, **67**, 634–643; see also **68**, 140–141.

If properly insulin fed, some dogs survive total pancreatectomy in fairly good nutrition, but with reduction of body weight and with polyphagia and polyuria present, for as long as eight months. Other totally pancreatectomized dogs lose weight and die in spite of being insulin fed to control hyperglycemia and glycosuria. Dogs which survive the operation indefinitely on being insulin fed show a regeneration of the pancreatic tissue on the duodenal stump of the pancreatic duct. From these facts it is inferred that insulin probably represents only a part of the pancreatic hormone complex, otherwise

insulin should maintain life indefinitely in the totally pancreatectomized animal. M. J. ZIGLER (Princeton).

978. ROGOFF, J. M., The Output of Epinephrin from the Adrenal Glands During Cerebral Anemia. *Amer. J. of Physiol.*, 1924, **67**, 551–572.

Cats were subjected to cerebral anemia by ligation of the cerebral arteries. It was previously pointed out that cerebral anemia induced by this manner brings about certain vasomotor and related changes, and it has been suggested that these vasomotor phenomena are provoked by an increased secretion of epinephrin under these conditions. In the present study samples of venous blood were taken from these animals in order to determine whether or not there is increased output of the adrenal glands. In the majority of cats there was a positive increase in the rate of adrenal secretion during the time when cerebral anemia was producing the usual vasomotor effects. Only in rare cases, however, did the maximum output exceed the upper limit found in cats under ordinary experimental conditions without cerebral anemia. M. J. ZIGLER (Princeton).

979. MOORE, C. R., and OSLUND, R., Experiments on the Sheep Testis-Cryptorchidism, Vasectomy and Scrotal Insulation. *Amer. J. of Physiol.*, 1924, **67**, 595–607.

By either experimentally shifting the testes of sheep from the scrotum to the peritoneal cavity, or by insulating the scrotum against loss of heat by secure wrapping, these investigators believe they have demonstrated that "an animal can be sterilized by its own body heat and that undescended testes occurring in nature are undoubtedly degenerate because of the higher temperature to which they have been subjected." M. J. ZIGLER (Princeton).

980. MOORE, C. R., and QUICK, W. J., The Scrotum as a Temperature Regulator for the Testes. *Amer. J. of Physiol.*, 1924, **68**, 70–79.

The temperature inside the scrotum is found to be decidedly lower than that of the peritoneal cavity. The difference in temperature of the two cavities varies as the external environmental temperature varies. The excessive temperature in the peritoneal cavity is suggested as the cause of seminiferous tubule degeneration in cryptorchid testes. It is also suggested that the scrotum acts as a local thermo-regulator for the testes. M. J. ZIGLER (Princeton).

981. HARTMAN, C., Vitamin A and Exercise in Relation to Follicular Atresia in the Opossum. *Amer. J. of Physiol.*, 1924, **68**, 97–101.

This study was undertaken with a view of determining whether sterility of the opossum through atresia of ovarian follicles is due to deficiencies of diet, especially of vitamin A. The results indicate that diet, and vitamin A in particular, do not cause sterility. It is suggested that confinement to cage and lack of exercise are the more likely cause. M. J. ZIGLER (Princeton).

6. ATTENTION, MEMORY AND THOUGHT

982. ELLIOT, R. H., Memory Sight. *British Med. J.*, 1924, No. 3293, 235.

Inquiries among those who have lost sight reveal that most of them have retained in memory a background of varying greys (cortical grey?). D. A. LAIRD (New Haven).

983. VALENTINE, C. W., The Function of Images in the Appreciation of Poetry. *Brit. J. of Psychol., Gen. Sec.*, 1923, **14**, 164–191.

The paper deals with the function of imagery, especially visual imagery, in the esthetic appreciation of poetry and its relation to feeling. Groups of subjects listened to the reading of poetry, recording their reactions to the first reading, and to the second reading after the possibility of imagery had been suggested. In other groups deliberate attempts to image were made. If a poem involved descriptions of natural objects, a majority of the persons tested experienced imagery and found it added to their enjoyment. Very decided individual differences were found, however. Imagery which is vague and indefinite may be just as helpful as very clear images. A capacity for facile imagery is no guarantee that it will be used in appreciation. Deliberate attempts at imagery usually spoil the appreciation of a poem. The images connected with past emotional experiences which are revived when elements of a favorite poem are dwelt upon, probably indicate some of the causes of the strong feeling of the poem. J. E. ANDERSON (Yale).

984. WILSON, K. M., The Correlation of Poetry with Music. *Brit. J. of Psychol., Gen. Sec.*, 1923, **14**, 206–217.

The author attempts to show "that the rhythms of music and of poetry can be identical, that the tunes of poetry differ from the tunes

of music in being inflected instead of sung, that just as music has developed forms of poetry, so poetry makes use of words which in their aspect as mere labels have developed away from music, whereas poetry differs from prose in using the musical sounds we call words as much for their music as for their meaning." J. E. ANDERSON (Yale).

985. DOCKERAY, F. C., Attention, Distraction, and Fatigue. *J. of Compar. Psychol.*, 1922, **2**, 331–370.

The author, in continuation of a series of experiments begun previous to 1915 (cf. *Kansas Univ. Science Bull.*, 1915, **9**, 197–243), has discovered that the sounder test, although a severe one on the subject, can be mastered or overcome under unfavorable conditions of distraction and fatigue. The test serves well to determine individual differences in ability to overcome distraction and also as a measuring device of auditory attention span. The test, although making general demands on the subject, yields relatively simple quantitative results. It requires more use of discrimination than does McDougall's dot marking test and also McComas' color-recognition reaction-time test. There was no noticeable fatigue of the sense organs, since the apparatus did not require as close fixation as did Miles' pursuitmeter. In the later uses of the test concentration was so great as to prevent the subjects from hearing train whistles, class bells, etc. The results so far obtained possess a high degree of uniformity and it is suggested that the test be used to measure the effects of fatigue, the effects of low oxygen content, ventilation, tobacco, and drugs. H. R. CROSLAND (Oregon).

986. DAY, M. E., The Influence of Mental Activities on Vascular Processes. *J. of Compar. Psychol.*, 1923, **3**, 333–377.

Careful experiments indicate that both physical and mental work produce a slight rise in systolic and diastolic blood pressures, which are followed by a drop after cessation of work. All subjects, save one, exhibited an augmented pulse rate during mental and physical work, and this rate was greatly reduced after the work was discontinued. In general results from children corresponded with those from adults. Younger children showed both an actually and a relatively higher increase in pulse rate, during exercise, than did older children (adolescents). Pulse rate was influenced far more, in all subjects, than was blood pressure, the latter showing many irregularities which are difficult to explain. The paper contains a very

valuable review of the literature, a bibliography of twenty-seven important references, six figures of results, and twenty-nine tables of numerical data. H. R. CROSLAND (Oregon).

7. SOCIAL FUNCTIONS OF THE INDIVIDUAL

987. SHARP, F. C., Some Problems in the Psychology of Egoism and Altruism. *J. of Philos.*, 1923, **20**, 85–104.

While facts as to the nature of altruism and egoism are regarded with somewhat of indifference by psychologists and students of ethics this is probably due to misconceptions as to the facts. On the other hand they would prove to be vital parts in a system of control when properly regarded. We here consider altruism and egoism not as moral qualities but as psychological forces. Egoism then is to be regarded as action performed with a view of obtaining my own good. The mind meets life situations, or problems, so continuously that eventually desire becomes automatic in its criticism, as sensation gradually turns into perception. Repetition makes all action mechanical. All action is following one's own desires and for this reason egoism may not be so defined. Altruism may not be defined as action performed for the good of another. All that may be said about egoism may be said somewhat about altruism, which is the desire for the good of another. They are the same force acting in different directions. Though altruism and sympathy are related they are two different things. Altruism has been commonly identified with love or at least it has been customary to equate the two, but love may exist without much altruism. But an ideal situation is one in which the former acts as an excitant to the latter. "Moral imbeciles" possessing little regard for their victims also suffer from a lack of "long-range" egoism. They disregard the consequences to themselves of their deeds. This is the kind of egoism correlated with altruism. Egoism and altruism are "branches from a common trunk." T. R. GARTH (Denver).

988. TURNER, J. E., Personal Immortality as an Ethical Principle. *Inter. J. of Ethics*, 1923, **34**, 59–68.

This paper is a defense of the belief in immortality since such a belief enriches and modifies the personality in manners in which materialistic standpoints do not. There is a difference between the mere existence of an ethical code and its "character," its level, its

stage of development. The defense is based upon a dualistic philosophy in combination with the theory of the evolution of consciousness as the highest feature of animal development. K. YOUNG (Oregon).

989. DEMOS, R., Legal Fictions. *Inter. J. of Ethics,* 1923, **34**, 37–58.

Legal fictions are seen in the light of sociology and of psychology as convenient features of our common attitudes of assumption. They do not belong to the field of belief, but rather to the practical or esthetic assumptions. The whole matter comes under the philosophic rubric of the "as if" and from the psychological angle is akin to hundreds of ruses employed in play, in social relations, in scientific theory, etc. K. YOUNG (Oregon).

990. BURNS, C. D., Philosophy in the University of Cambridge. *Inter. J. of Ethics,* 1923, **34**, 27–36.

A short historical treatment of the present empirical trends in philosophy at Cambridge led by Russell, G. E. Moore, Whitehead and others. K. YOUNG (Oregon).

991. GEIGER, J. R., The Effects of the Motion Picture on the Mind and Morals of the Young. *Inter. J. of Ethics,* 1923, **34**, 69–83.

There are three features of the motion picture which challenge "the serious consideration of the student of ethics who reflects on the relation of this institution to the mental and moral welfare of the young." The first of these is the universality of its appeal; secondly, this appeal is through the channel of the eye rather than of any other sense departments; finally, from the ethical angle the fact is important that the appeal is in large part to children, adolescents and young people although the bulk of films are constructed for adult audiences. The writer analyzes the moral attitudes which are built up due to the nature and appeal of the motion pictures. The psychological principles used in interpretation are chiefly imitation, sympathetic induction of the emotions, and suggestion. The writer follows McDougall in large part here. No concrete statistical or other data are used. The discussion is chiefly from the theoretical side. K. YOUNG (Oregon).

992. ROBINSON, D. S., A Critique of Meliorism. *Inter. J. of Ethics*, 1924, **34**, 175–194.

This is a logical criticism of the position of Dewey, Bode, Otto and others. There are really two concepts which bear the name meliorism: one is realistic, "commonly known as the relational theory," the other is the "Platonic or harmony theory," now known under the biological term, adjustment. The core of the criticism bears upon the fact that these writers tend to put these two contradictory notions together in the same logical basket. Moreover, the meliorist is taken to task for constructing his utopia upon a "social intelligence" which ignores affective-volitional features of human nature. K. YOUNG (Oregon).

993. SCHOEN, M., The Validity of Tests of Musical Ability. *J. of Compar. Psychol.*, 1923, **3**, 101–121.

The author presents results which were obtained on school children with the use of the four Seashore tests of the primary essentials of musical talent, namely, the tests of pitch discrimination, intensity discrimination, duration discrimination, and consonance discrimination, and with the use of five tests of musical feeling and understanding devised at Carnegie Institute of Technology and Seashore's test of tonal memory—the five designed at Carnegie being tests of absolute pitch, relative pitch, tonal sequence, rhythm, and chord analysis. No tests of motor abilities were used. The scale of rating each child in each test was as follows: 90 to 100, very superior; 80 to 90, superior; 70 to 80, high average; 60 to 70, above average; 50 to 60, average; 40 to 50, below average; 30 to 40, poor average; 20 to 30, inferior; and 10 to 20, very inferior. The children were also rated by their musical teachers. The tests ratings were compared with the teachers' ratings. The high degree of correlation between the two ratings was shown in the fact that the rank positions, for intonation, tonal quality, tonal shading, variety of performance, phrasing, time and rhythm, and talent as a whole, did not vary over two places and for most children did not exceed one rank-position. Also the ten tests revealed strong and weak points in the talents of any given person. The tests were shown to give an index of general talent, to reveal weaknesses which deserve attention, and to indicate for what sort of musical instrument the child is best suited. The paper contains eleven tables of results and six graphs. H. R. CROSLAND (Oregon).

994. ORTMANN, O., Weight Discrimination as a Measure of Technical Skill in Piano Playing. *J. of Compar. Psychol.*, 1923, 3, 11–26.

In a paper which refers copiously to the important discoveries made by Goldscheider, Weber, Hering, Binet and Courtier, Woodworth, Mueller and Schumann, Fechner, and Steffens on various phases of judging lifted weights and the rôle of kinesthetic sensations in such judgments, Ortmann presents the results of preliminary tests by himself and of his final tests upon the kinship between one's weight discrimination threshold and one's technical skill in piano playing. The experiment consisted in having the subject strike with his third finger a plate, much like the piano key, which by a lever lifted a weight of 50 grams (standard) behind a screen and of comparing this weight with another above or below it in number of grams. The least perceptible difference threshold was ascertained to be 2.5 grams or 1/20 for five talented adults. The threshold was found to be much lower for talented persons than for persons inferior in technical piano skill. The type of stroke or touch of the key-plate had an influence on the threshold: a nonpercussive stroke gave the lowest threshold, and the extreme percussive type gave the highest threshold. In piano subjects who had attained "finger, hand, and arm independence," finger movement judgments were characterized by the lowest threshold, followed in order of increasing threshold by hand, forearm, and arm movement judgments. Judgments making use of both key descent and key ascent gave the lowest difference threshold, followed in order of increasing threshold by descent-only judgments and ascent-only judgments. H. R. CROSLAND (Oregon).

995. INMAN, W., Critical Notice of the Second Report of the Miners' Nystagmus Committee. *Brit. J. of Med. Psychol.*, 1923, 3, 327–331. J. E. ANDERSON (Yale).

8. SPECIAL MENTAL CONDITIONS

996. KEARNEY, J. A., Drowsiness. *Med. J. and Record*, 1924, 119, 247–248.

Drowsiness may be caused by either of the following ocular factors: roughened surface of the conjunctiva and reduction in vision. D. A. LAIRD (New Haven).

997. Di Macco, G., Osservazioni sulla percentuale di error nella reazione discriminative per l' azione dell' alcohol in individui normali e cronicamente alcoholizzati. *Arch. di Fisiol.*, 1923, **21**, 131–135.

Alcohol was found constantly to lower the performance in discriminative reasoning. D. A. Laird (New Haven).

998. Eichholtz, F., Über den Einfluss von Nikotin und Nikotinartig wirkenden Substanzen auf die Adrenalinsekretion. *Arch. f. Exper. Path. u. Pharm.*, 1923, **99**, 172–184.

Substances having pharmacological properties of nicotine liberate the secretion of the adrenal after the section of the splanchnic nerves. D. A. Laird (New Haven).

999. White, W. A., Psychoanalysis and Vocational Guidance. *Psychoanalytic Rev.*, 1923, **10**, 241–260.

The individual in order to be successful and happy in his work must do something that he wants to do—not what some one aspect of his personality wants, but what he as a whole wants or what he most fundamentally wants. Failure and success can perhaps be thought of in terms of the proportion of the personality that is satisfied with the occupation followed. The choice of a vocation like the distinguishing traits of personality is determined by original impulses, sublimations of the same or reactions formed against them. It follows that vocations cannot be wisely chosen for others. Spontaneous choice, if free from distorting factors, is bound to go right. The distortions can be cleared away by psychoanalysis. The writer sums up and explains Stekel's five groups of factors determining vocational choice, namely: identification with the father, differentiation from the father, sublimation, protection against unconscious tendencies, and expression of unconscious sexual tendencies. J. W. Bridges (Toronto).

1000. Simmons, D. A., The Metamorphosis of Mary. *Psychoanalytic Rev.*, 1923, **10**, 261–269.

A hitherto unclassified neurosis frequently found in the divorce courts is described. This "Conjugal Neurosis," popularly known as insane jealousy, is a paranoid type but based upon a repression of heterosexual love rather than homosexual love. The difference between it and typical paranoia is a difference in degree. The

writer believes that the repression of any sexual love emotion, homosexual or heterosexual, may lead to a defense in the form of delusions of evil doing and malignant design by its object, the degree of the delusion depending upon the intensity of the emotion and its defense. The repression resulting in conjugal neurosis is due to one of the pair evolving away from the other. The one left behind develops the neurosis. J. W. BRIDGES (Toronto).

1001. KARPMANN, B., The Sexual Offender. *Psychoanalytic Rev.*, 1923, **10**, 270–315.

An account is given of a young man who was arrested on a charge of mailing obscene letters. The case may be diagnosed as one of obsessional neurosis as the letters appear to have been written under considerable impulsion. Analysis revealed a pronounced homosexual trend. The consequent failure to effect a normal sexual adjustment resulted in the compensatory sexual offenses. The writer concludes that " Individuals arrested on the charge of writing and sending obscene letters through mail, can often be shown to be homosexuals, whose antisocial activities are psychogenically motivated by unconscious conflicts and they should therefore be treated as mentally ill and not as criminals." J. W. BRIDGES (Toronto).

1002. BJERRE, P., From Psychoanalysis to Psychosynthesis. *Psychoanalytic Rev.*, 1923, **10**, 361–379.

Disintegration and mechanization are the bases of mental disorder. The problem of psychotherapy is synthesis and adaptation to reality. Psychoanalysis is needed as the only possible instrument enabling us to understand the desperate efforts of the sufferer to escape reality and take refuge in disease. But we must not stop here. If we mean to progress from science to art, we must take the step from psychoanalysis to psychosynthesis. Psychosynthesis is a method of helping the patient by every available means to the highest degree of self-deliverance of which he is capable. J. W. BRIDGES (Toronto).

1003. STRAGNELL, G., Condensation and Resymbolization in Dream Interpretation. *Psychoanalytic Rev.*, 1923, **10**, 431–439.

An analysis is given of a dream which illustrates the above mechanisms and also the narcissistic identification of the dreamer

with each person in the dream. This dream at the same time represents the actual life pattern of many women. J. W. BRIDGES (Toronto).

1004. CRAWFORD, N. A., Literature and the Psychopathic. *Psychoanalytic Rev.*, 1923, **10**, 440–446.

Popular fiction of the present day is compared with the legend. Both emphasize the importance of the common taboos—the former, contemporary and local taboos, the latter, race taboos. Both also make use of magic; they mistake ideal connections for real ones. These are common psychopathic tendencies. "The farther we can get from the attitude of the legend and its slightly more civilized successor, popular literature, the nearer we shall be to a significant way of life." J. W. BRIDGES (Toronto).

1005. SWISHER, W. S., The Symbolism of Wagner's "Rheingold." *Psychoanalytic Rev.*, 1923, **10**, 447–452.

The "Rheingold" is interpreted as an analerotic symbolism. A case whose dreams illustrate a similar symbolism is described. J. W. BRIDGES (Toronto).

1006. HUBBARD, L. D., Transference and Sex. *Psychoanalytic Rev.*, 1923, **10**, 453–456.

The sex of the analyst is an important factor in determining the nature of the transference, upon which depends the success of the analysis. Those patients having a pronounced homosexual trend make good transfers to analysts of the same sex. Patients showing marked heterosexual trends do best with analysts of the opposite sex, provided the transfer is tactfully handled and not allowed to become erotic. The dominating trend may be determined in most cases by a careful study of the history. A change of sexual trend in the course of analysis is not often a source of danger because it is usually a modification of the original balance though in some cases it may be a marked change indicating recovery. J. W. BRIDGES (Toronto).

1007. CORIAT, I. T., Active Therapy in Psychoanalysis. *Psychoanalytic Rev.*, 1924, **11**, 28–38.

The customary procedure in analytic work is a passive one. "But in some cases and under special conditions, such as stagnation

of the analysis, the inability to overcome anxiety and fear, the presence and unconscious construction of formidable resistances, homosexual transferences, unconscious motivation of symptoms under the guise of a relapse in order to prolong the pleasure of the transference, attempts to use the dreams as a sort of refuge from the facing of an unbearable reality which the treatment of the neurosis is forcing on the patient and finally in the stubborn symptomatic religious trends in certain cases of obsessional neuroses, an active interference by the analyst is not only permissible, but may be demanded by the nature and condition of the case." "The principal motive for active therapy is for the purpose of stirring up unconscious material and it should never go beyond the prohibition of something which gives the patient either comfort or pleasure. The active interference is therefore with the resistances alone, and then very guardedly and only when absolutely necessary, for it is this resistance which produces the temporary stoppage or stagnation in the analysis." J. W. BRIDGES (Toronto).

1008. SUN, J. T., Psychology in Primitive Buddhism. *Psychoanalytic Rev.*, 1924, **11**, 39–47.

Some of the Buddhistic teachings are compared with the tenets of psychoanalysis, and the writer concludes that "there are far more affinities between the Buddhist philosophy and Freudian psychoanalysis than exist between the latter and any other system for aiding humanity to attain the goal of increased energy intake, conversion, and output." "Philosophically the aim of both is identical, the elimination of sorrow, and the attainment of happiness. In Buddhism the path is by enlightenment, in psychoanalysis by association-understanding of intrapsychic mechanisms, and both place the highest stress upon the need for sublimation." J. W. BRIDGES (Toronto).

1009. TALBERT, G. A., READY, F. L., and KUHLMAN, F. W., Plethysmographic and Pneumographic Observations made in Hypnosis. *Amer. J. of Physiol.*, 1924, **68**, 113.

Plethysmograms of the arm volume and pneumograms of a hypnotic subject were simultaneously recorded to study fluctuations produced by suggestion. Control observations were made with the subject awake by presenting the same suggestions as were given in hypnosis. The volume of the arm fluctuated without suggestions, as

other observers have found, perhaps due to variable external stimuli. The changes which follow certain suggestions are marked and predictable. Cold and the suspense occasioned by a sharp sound invariably produce constriction. If a suggestion of comfort follows an unpleasant suggestion, dilatation is produced. Suggestion of heat is not so predictable. At the beginning of hypnosis constriction takes place, followed shortly by dilatation. The suggestion of awakening usually produces constriction, but after awakening there is dilatation. Changes in respiration are never predictable, although some are to be expected. M. J. ZIGLER (Princeton).

1010. TUTTLE, W. W., The Effect of Alcohol on the Patellar Reflex. *Amer. J. of Physiol.*, 1924, **68**, 147.

After the normal kicks of eight subjects were recorded for a time, 50 c.c. of whiskey in 50 c.c. of water were given by mouth. The reflex increased from a minimum of 17 per cent to a maximum of over 2,000 per cent. "A depressor effect was evident in two subjects habituated to alcohol. The augmentor effect persisted from twelve to forty minutes in six cases, and more than forty minutes in two cases." M. J. ZIGLER (Princeton).

1011. BATES, R. L., The Effects of Cigar and Cigarette Smoking on Certain Psychological and Physiological Functions. *J. of Compar. Psychol.*, 1922, **2**, 371–423.

In a long paper, which contains nineteen tables and nine figures but *no* summary of results, it is shown that smoking has almost no deleterious influence upon accuracy in dart throwing at a target, although there are slight individual differences. Slightly smaller variability in test scores occurs on smoking days. The reviewer suggests that the interested reader must closely study the tables of results if he cares to ascertain in finer detail just what were the findings of this investigation over and above the two results which appear above. H. R. CROSLAND (Oregon).

1012. BATES, R. L., The Effects of Cigar and Cigarette Smoking on Certain Psychological and Physiological Functions. *J. of Compar. Psychol.*, 1923, **3**, 37–49.

In a series of tests designed to ascertain the influence of smoking upon free word-associations the author has designed an interesting

technique and has published in this article three figures, six tables of results, and a bibliography of nineteen references. The net result of the tests was the fact that smoking was found not to have impeded the flow of ideas if the number of word responses is a criterion of the easy flow of ideas. In fact, after smoking the number of word-responses was greatly augmented and variations from the average were much smaller; but the author suggests that the period of rest, between the giving of the first series of tests (without smoking) and the giving of the second series (which immediately followed smoking), may in part explain the augmenting of the number of responses in the after-smoking tests. H. R. CROSLAND (Oregon).

1013. WORSTER-DROUGHT, C., "Narcolepsy." *Brit. J. of Med. Psychol.*, 1923, **3**, 267–282.

The various forms of narcolepsy (recurrent states of sudden and profound sleep) arising on both an organic and functional basis are described at some length. Their relation to ordinary sleep and their bearing on the theory of sleep are discussed. The most satisfactory treatment for the functional cases involves (1) a psychoanalysis, (2) a reconstruction of the origin of the narcolepsy or of the original emotional experience under light hypnosis. J. E. ANDERSON (Yale).

1014. ABRAHAM, K., Psycho-Analytic Views on Some Characteristics of Early Infantile Thinking. *Brit. J. of Med. Psychol.*, 1923, **3**, 283–288.

Thinking in early childhood is in a special degree under the influence of the instinctive life. The psychic attitude of the young child towards objects is determined simply and solely by the pleasurable or painful effect produced upon him by those objects. When two objects arouse in the child similar feelings of pleasure or of pain, he proceeds unhesitatingly to identify them. The critical mode of thinking by which we compare and differentiate is wholly absent at this early stage. It is only gradually that differentiation in thinking establishes its claims. This involves the appearance of regulative factors which are derived from the repression of the instincts. J. E. ANDERSON (Yale).

1015. BRIERLY, S. S., A Note on Sex Differences, from the Psychoanalytic Point of View. *Brit. J. of Med. Psychol.*, 1923, **3**, 288–308.

The observable mental differences between men and women are the result of a highly complex interplay of three groups of factors, viz., (a) the organic differences springing directly from the primary fact of maleness and femaleness, (b) the accompanying innate psychological characteristics, which vary in degree and ensemble from one individual to another, and (c) the awareness of the fact of sex; this latter functioning not merely through the subtle operation of tradition and social pressure but also through the acute awareness, in the mind of the little child of the possession or non-possession of the phallus. The group of temperamental differences which includes the greater social submissiveness of women, their relative lack of initiative and greater willingness to follow a convention, or to work along lines laid down for them by others, these are clearly connected with a group of physiological and psychological conditions which includes (1) the fundamental organic conditions of the reproductive functions in the female, involving the lesser degree of variability and closer approximation to type; (2) the specific nature of the sex impulse in the female, with its passive and masochistic coloring; (3) the fact that the sex impulse and the ego trends diverge in the female, while converging in the male; and (4) the fact that the father is normally at one and the same time the object of the first sex impulse, and the major, more impersonal focus of authority. It would thus appear that the characteristics in question are, at least to a considerable degree, an inevitable accompaniment of normal feminine development; but it is equally clear that they are considerably heightened by an overdevelopment of the fantasy of castration by the father; and that, if social conditions are such as to call for greater freedom of initiative and greater independence on the part of women, the point of educational attack must be the early period when that fantasy is developed. J. E. ANDERSON (Yale).

1016. MOXON, C., M. Coué's Theory and Practice of Auto-suggestion. *Brit. J. of Med. Psychol.*, 1923, **3**, 320–326.

M. Coué's theory and practice of auto-suggestion is critically examined in the light of Freud's libido theory and psychoanalysis. It is clear that auto-suggestion cannot be recommended if it is either of the repressive or expressive kind when it is used (a) to promote

regression to infantile narcissism, (b) to weaken the reality principle, (c) to replace the search for the hidden causes of ill-health by an ignorant removal of pain and incapacity, and (d) to encourage the delusion of omnipotence. It may be used for (a) the removal of slight neurotic symptoms in normal individuals, (b) for involutionary cases that preserve the relics of a bygone conflict by the habit of repetition, and (c) for unanalyzable persons. J. E. ANDERSON (Yale).

1017. BATES, R. L., The Effects of Cigar and Cigarette Smoking on Certain Psychological and Physiological Functions. *J. of Compar. Psychol.*, 1922, **2**, 431–505.

In a long article which contains, in continuation of a previous study, sixty-seven tables and eight figures of results, Bates ascertained that in every case the systolic and diastolic pressures and the heart rate manifested an upward tendency shortly after the beginning of smoking, with a return towards "normal" with the cessation of smoking. It is suggested that all of these effects in extreme degrees did not necessarily arise from smoking, inasmuch as various factors influence blood pressure, heart rate, and pulse, such as bodily metabolism in various states of health and digestion, etc., and psychological factors in the nature of environmental stimuli, and perceptual, ideational and emotional reactions of the subject during the act of smoking itself. H. R. CROSLAND (Oregon).

9. NERVOUS AND MENTAL DISORDERS

1018. MORSE, M. E., The Pathology of the Ductless Glands in a Series of Dementia Praecox Cases. *J. of Neurol. and Neuropathol.*, 1923, **4**, 26–36.

When dementia precox observations were compared with similar ones from control cases no disturbance in the endocrine system peculiar to dementia precox was demonstrable. D. A. LAIRD (New Haven).

1019. MILES, W. R., and ROOT, H. F., Psychologic Tests Applied to Diabetic Patients. *Arch. of Int. Med.*, 1922, **30**, 767–777.

Diabetics show a decrement of about 15 per cent on memory and attention tests; this is rapidly decreased following treatment. In five treated diabetics the accuracy and speed of movement was about 20 per cent below normal. D. A. LAIRD (New Haven).

1020. GIBBS, C. E., and LEMCKE, D., Study in Basal Metabolism in Dementia Praecox and Manic-Depressive Psychosis. *Arch. of Int. Med.*, 1923, **31**, 102–115.

Abnormal metabolic rates marked the acute phases of the psychosis; no endocrine basis was found for this variation. D. A. LAIRD (New Haven).

1021. MOTT, F. W., The Condition of Sex Organs in Dementia Praecox. *Encéphale*, 1923, **18**, 73–85.

In thirty-four cases with general paralysis spermatozoa were nearly always found, while in thirty-seven dementia precox patients spermatozoa were found in only 66 per cent of the cases. D. A. LAIRD (New Haven).

1022. WILSON, J. L., The Endocrine Factor in Mental Disease. *Proc. Roy. Soc. Med.*, 1923, **16**, 21–30.

Failure must be noted in attempts to correlate nerve lesions with behavior changes and disorders. The endocrines offer a field prolific in results and possibilities. Many cases are cited. D. A. LAIRD (New Haven).

1023. DALY, I. D., PRYDE, J., and WALKER, J., The Blood Sugar in Cases of Epilepsy. *British Med. J.*, 1924, No. 3293, 232–233.

A demonstration of the irregularity of blood sugar determinations in normal subjects, indicating that the changes in four epileptics studied are not significant. D. A. LAIRD (New Haven).

1024. GIBBS, C. E., Sex Development and Behavior in Male Patients with Dementia Praecox. *Arch. of Neurol. and Psychiat.*, 1923, **9**, 73–87.

Female distribution of pubic hair in 13 per cent of younger patients and in 2.6 per cent of patients between twenty-one and forty. D. A. LAIRD (New Haven).

1025. ALDEN, A. M., Psychosis Associated with Disease of the Nasal Accessory Sinuses. Operation. Recovery. Report of Cases. *Laryngoscope*, 1924, **34**, 126–131.

Four cases with mental symptoms which were relieved following operation for sinus condition. D. A. LAIRD (New Haven).

1026. FLEMMING, G. G., Respiratory Exchange in Cretinism and Mongolian Idiocy. *Quart. J. of Med.*, 1922, **16**, 11–21.

Unusually low basal metabolism was observed in the untreated cretin. When fed thyroid extract basal metabolism was raised to about normal in the cretin but not in the Mongolian. D. A. LAIRD (New Haven).

1027. KESSEL, L., and HYMAN, T., The Clinical Manifestations of Disturbances of the Involuntary Nervous System (autonomic imbalance). *Amer. J. Med. Sci.*, 1923, **165**, 513–530.

Study of eighty-six cases indicates that instability of the autonomic nervous system is a diathesis. Hormone therapy is useless in these cases and there is no data to justify belief in endocrine participation. D. A. LAIRD (New Haven).

1028. LEWIS, N. D. C., An Anatomical Study Contrasting the Dementia Praecox Constitution with that of Paranoid Development. *Southern Med. J.*, 1923, **16**, 327–330.

Differential changes reported in the gonads, adrenal cortex, and thyroid. D. A. LAIRD (New Haven).

1029. SIERRA, A. M., Las pruebas farmacodinánucas en psiquitría. *Semana méd.*, 1923, **30**, 31–33.

Examination of 100 insane revealed no connection between endocrines and the mental disease. D. A. LAIRD (New Haven).

1030. BORSZÉKY, K., Zur Behandlung der epileptischen Krämpfen mit Exstirpation einer Nebenniere nach Brüning. *Zentralbl. f. Chir.*, 1922, **49**, 1053–1057.

One adrenal removed from each of nine epileptics. Not one appeared cured, but the operation was usually followed by a temporary improvement. D. A. LAIRD (New Haven).

1031. DUNLAP, C. B., Dementia Praecox. Some Preliminary Observations on Brains from Carefully Selected Cases and a Consideration of Certain Sources of Error. *Amer. J. of Psychiat.*, 1924, **3**, 403–421.

Brains were chosen for observation in which the following conditions were constant: (1) the diagnosis was without doubt; (2) the

patient had not been more than forty years old; (3) death was sudden, not from a wasting disease; and (4) autopsies had been performed immediately after death. Similar conditions held for the normal brains of the control study. Dark staining sclerotic nerve cells were found in both the diseased and control groups, but not a constant finding in either. Destruction of the cytoplasm, which is held by Mott to be characteristic of dementia precox, was found also in Dunlap's control group. From his observation, lipoid content in nerve cells may or may not be increased in dementia precox. There was no increase in neuroglia cells or fibers. On the fundamental issue of loss of nerve cells, Dunlap's count was practically the same for both groups; the composition of the nerve tissues in either group was variable, with no consistent type for either. No gross changes of pathological significance were found in the dementia precox group which could be considered as proof of the organic nature of the disease. A. L. Gould (Boston Psychopathic Hospital).

1032. Pollock, H. M., The Future of Mental Disease from a Statistical Viewpoint. *Amer. J. of Psychiat.*, 1924, **3**, 423–434.

Since 1880 there has been a constantly increasing percentage of mental patients cared for. There seems also to be an increased proportion of the population suffering from mental disease. Several reasons are assigned for this: as physical disease has increased, and longevity increased, the incidence of mental disease has increased; the population in the United States has been shifting from rural to urban, where the rate of mental disease is higher; mental disease occurs oftener among inferior than among superior stocks, and there has been a noticeable decrease of birth rate among superior stocks. Some checks have operated: prohibition, control of syphilis, the prosperity of the United States, and the greater use of psychopathic hospitals and mental clinics in the early stages of mental diseases. Since 1910 there has been a decrease in alcoholic psychoses, since 1918 a slight decrease in general paresis, along with an increase in dementia precox, manic-depressive states, and arteriosclerosis. Unless some method is found of preventing the increase in these last three categories, mental disease bids fair to supersede physical. A. L. Gould (Boston Psychopathic Hospital).

1033. WOLTMAN, H. W., The Mental Changes Associated with Pernicious Anemia. *Amer. J. of Psychiat.*, 1924, **3**, 435–449.

Constitutional factors play the deciding rôle in determining whether the patient will develop a psychosis in pernicious anemia. Cord changes frequently precede the appearance of anemia, and the nervous condition may progress without the actual appearance of the disease. There is a gradual mental deterioration, and an apathy which is physical rather than mental or emotional. Patients may be irritable or suspicious, providing the framework for a system of delusions of persecution. Pathologically, pernicious anemia shows focal lesions in the brain, ganglion cell changes, very slight progressive change in glia cells, and changes in blood vessels. It is a too frequently neglected cause of mental disease. A. L. GOULD (Boston Psychopathic Hospital).

1034. PRATT, G. K., Education and Mental Interpretation. Two Essentials in a Mental Hygiene Program. *Amer. J. of Psychiat.*, 1924, **3**, 463–474.

Mental hygiene activities fall into two groups, the clinical and the educational. In Massachusetts the Department of Mental Diseases takes charge of the clinics, and the Society of Mental Hygiene the educational work. A clientele for the clinics must be created and this is accomplished through a lecture bureau which goes throughout the state addressing organizations such as chambers of commerce, women's clubs, department store groups and the like, and through the distribution of pamphlets and exhibits. Language is kept simple to insure reaching those for whom the information is meant. As often as possible case illustrations replace statistical charts as a more intelligible and efficacious method of creating a demand for mental hygiene. A. L. GOULD (Boston Psychopathic Hospital).

1035. OVERHOLSER, W., The Voluntary Admission Law: Certain Legal and Psychiatric Aspects. *Amer. J. of Psychiat.*, 1924, **3**, 475–490.

"A voluntary application is a form of contract which is valid if the patient is competent and is acting of his own free will." Such a law encourages early treatment and should apply particularly to psychoneurotics and patients in the early stages of psychosis, but not to drug addicts or alcoholics, where voluntary admission does not

meet the needs of the case. It should be open to competent persons only, who should be committed regularly if they become incompetent. The length of notice required before departure should be sufficient to give notice to relatives or to arrange for commitment if that is advisable. A. L. GOULD (Boston Psychopathic Hospital).

1036. CHAPMAN, R. McC., The Control of Sleeplessness. *Amer. J. of Psychiat.*, 1924, **3**, 491–502.

The reasons for sleeplessness are varied: local irritation or pain, toxic states, intense fatigue, worries, "threatened eruption of unconscious intolerable repressed material," are among the more common causes. An inquiry should be made into sleeping habits and personal hygiene, with regulation of the routine of both. Wakefulness is frequently a habit that must be offset. In manic excitement sleeplessness is related to the intense psychomotor activity working as a defense against the breakdown of repression of emotional conflicts. The mechanism of sleep is not very adequately understood, but sleeplessness yields to certain types of therapy. Hospitalization, hydrotherapy, and occupational therapy are all more advisable than the administration of drugs. A. L. GOULD (Boston Psychopathic Hospital).

1037. WHITE, W. A., The New Saint Elizabeths Hospital. *Amer. J. of Psychiat.*, 1924, **3**, 503–513.

A description of the reorganization of the hospital since the war is presented. Its problems have been those of personnel and administration. There is an outline of the various branches of organization, internal medicine, psychological department, clinical psychiatry and biological laboratories with accounts of experimentation, studies and recent or projected publications. The hospital offers various courses and trains physicians for Veterans' Bureau neuropsychiatric hospitals. A. L. GOULD (Boston Psychopathic Hospital).

1038. GIBBS, C. E., Sex Development and Behavior in Female Patients with Dementia Praecox. *Amer. J. of Psychiat.*, 1924, **3**, 567–568.

The author's abstract of an article published elsewhere and previously abstracted in these pages. A. L. GOULD (Boston Psychopathic Hospital).

1039. NACCARATI, S., The Morphologic Basis of the Psychoneuroses. *Amer. J. of Psychiat.*, 1924, **3**, 527–544.

There is a somatic individuality as well as mental individuality. The somatic individuality is a predisposing factor in mental as well as in physical disorders. Certain types of organism are congenitally more disposed to one or another type of neurosis. The "macrosplanchnics" are "individuals possessing a large trunk, which is excessively developed in relation to the limbs; that is, the horizontal diameters are prominent in comparison with the vertical diameters of the body." The "microsplanchnics" are "individuals possessing a small trunk, so that the development of the limbs is in excess over it, in the sense that the vertical diameters predominate over the horizontal diameters of the body." Between these two types are the "normosplanchnics," in whom trunk and limbs show harmonious development. Emotional psychoneurotics show a larger percentage of macrosplanchnics, neurasthenics a larger percentage of microsplanchnics. Normosplanchnics are less subject to psychoneuroses than other individuals; their capacity for adaptation is greater. These results harmonize to some extent with those recently published by Kretschmer. To correct extreme deviations in the race, marriages between extreme types should be avoided, and developmental defects corrected; the morphologically abnormal should be kept from situations with too much mental and physical stress. A. L. GOULD (Boston Psychopathic Hospital).

1040. WILGUS, S. D., Centralized Control vs. Local Control of State Hospitals. *Amer. J. of Psychiat.*, 1924, **3**, 545–553.

Centralized control of state hospitals is a fact and not a theory, and fits into the trend of government, towards strong centralization, in this country. But there is room for discussion of the fact. Centralization is more acceptable to Americans because they are impatient and ambitious for results, and are suspicious of localities with their separate plans of action. Most groups are still under the control of instincts and emotions, and need carefully chosen, intelligent leadership, but this should not check individual initiative. The ideal for a state hospital would be to have a carefully chosen superintendent with free rein, and to hold him strictly accountable. A. L. GOULD (Boston Psychopathic Hospital).

1041. GLUECK, B., The Concept "Nervous Child." *Amer. J. of Psychiat.*, 1924, 3, 515–526.

The term "nervous child" has been too loosely used by mothers, teachers, and doctors. Some children from infancy show the earmarks of the constitutionally nervous child by extreme sensitivity to light and sound, to the quality of clothing, to sleep, and to food. They are in general hypersensitive and easily fatigued. As they grow older, and the environment becomes more complex, the situation for them becomes more complicated. The nervousness is generally coupled with brightness, but for that reason the children should not be forced, since irritability or negativism may follow. The problem should be treated as fundamentally one of fatigue, taking care in the treatment that the child does not exploit his nervousness to avoid the unpleasant aspects of adaptation. Deliberate exploitation is not disastrous, but unconscious exploitation may lead to constitutional nervous inferiority. Unless guidance is cautious there is great danger of fixating undesirable traits. Hypersensitiveness to sensory stimuli is generally followed by a hypersensitive conscience, which leads to deep moral conflicts. This sensitiveness and a sense of inadequacy lead to compensatory efforts and neurotic manifestations. Classroom success is helpful in offsetting these feelings of inferiority. In the "nervous child" causation is rarely specific, but more often constitutional. A. L. GOULD (Boston Psychopathic Hospital).

1042. KERNS, H. N., Cadet Problems. *Amer. J. of Psychiat.*, 1924, 3, 555–566.

Frank mental disease at West Point Military Academy is uncommon, on the average, one case a year—usually dementia precox. Mental disorders, however, in spring and winter, are second in frequency to acute respiratory diseases, and in fall and summer to minor injuries in athletics. Many go to West Point because they feel they have fallen short of manly standards; they compensate and do well unless they meet with rebuffs. In this emergency they cannot withdraw from their fellows, they must be gregarious, and so a field is prepared for incipient mental disorders. The inferiority mechanism is at the bottom of many of the nervous and mental disorders of cadets. The hospital is the only flexible part of the system; physical failure offers a way out without disgrace from a situation where failure is very serious. The training in honesty and character helps

in the treatment of mental disease, but prevention remains an important problem. A. L. GOULD (Boston Psychopathic Hospital).

1043. SOMERVILLE, H., The War Anxiety Neurotic of the Present Day: His "Dizzy Bouts" and Hallucinations. *Brit. J. of Med. Psychol.*, 1923, **3**, 309–319.

A number of cases of dizzy bouts and vivid hallucinations which were similar to war experiences are described. The specific stimulus setting off the attack was found to be the recurrence of an apparently insignificant stimulus which had been part of a situation or situations under which great fear had been experienced during the war. This transference is one of the factors in the causation of the bout; the other being the patient's general condition of chronic, poorly suppressed fear which is set off by the innocent occasion. J. E. ANDERSON (Yale).

10. INDIVIDUAL, RACIAL AND SOCIAL PSYCHOLOGY

1044. FRIEDJUNG, J. K., Criminality in Children. *Med. Klinik*, 1924, **20**, 78.

Amnesia of adult for his childhood results in misunderstanding the violences of children, in which jealousy is a frequent cause. D. A. LAIRD (New Haven).

1045. DORCUS, R. M., Performances of Athletes in Coördination Tests. *J. of Compar. Psychol.*, 1923, **3**, 475–499.

Before and after the regular athletic season (in the spring) steadiness tests, tapping tests, dynamometer tests, card-dealing and color-naming tests, and two forms of graphic coördination tests were administered to twenty track athletes and twenty male nonathletes at Johns Hopkins University, a group of women athletes and a group of women nonathletes at Goucher College. Male athletes were found to be superior to nonathletes in coördination in all the tests, with the exception of the first steadiness test (before the spring athletics) in which case the nonathletes were superior. The superiority of the athletes was, however, very small in the tapping and card-sorting tests. Athletic women were found to be even more superior to nonathletic women than athletic men were superior to nonathletic men. Both groups of men, athletes and nonathletes were superior to the women, except in the tapping test and the color-

naming test. Training incident to the athletic season affected favorably the athletes far more than the nonathletes where any such improvement was noticeable; also athletes decreased in ability, between the two series of tests, far less than did nonathletes. Women gave higher correlations between certain of the tests than did the men. The dynamometer tests revealed three types of fatigue curves: first, a curve of maximal grip at first with a steady decline and only slight recoveries; second, a curve of maximal grip at the beginning with many fluctuations and with many returns to the original level of attainment; and third, a curve of maximal grip that is maintained throughout. With the dynamometer tests, many persons gave results which were consistently uniform in character. The paper contains five tables and twenty figures of results. H. R. CROSLAND (Oregon).

1046. WASHBURN, M. F., A Questionary Study of Certain National Differences in Emotional Traits. *J. of Compar. Psychol.*, 1923, **3**, 412–430.

Using a questionary, order-of-merit ranking method, Washburn has obtained data concerning objects and situations which give pleasure or displeasure, from two groups of foreign-born Russian Jewish women, 140 in number; 60 foreign-born and 25 American-born South Italian women; 46 Parisian working girls; 18 Polish women students; and 30 Polish working girls in Warsaw. She obtained results which seem to indicate that the Russian Jewish women take more pleasure in intellectual pursuits than do the South Italian women; that South Italians "take to" churchgoing and French girls to theaters for pleasure, while the French subjects reacted with indications of great fear as reminiscent of the late war; and Russian Jewish women seemed to be weak in what is termed "altruistic anger." The paper contains twelve tables of results. H. R. CROSLAND (Oregon).

11. MENTAL DEVELOPMENT IN MAN

1047. SHELDON, W. H., The Intelligence of Mexican Children. *Sch. and Soc.*, 1924, **19**, 139–142.

One hundred white and one hundred Mexican children of the same age and school environment were given the Cole-Vincent group test and the Stanford-Binet. The average mental age in months for

the whites was 86 and for the Mexicans 81; the average I.Q.s were 105 and 89, respectively. Arranged into chronological age groups, the difference between the whites and Mexicans seems to increase with age. R. PINTNER (Columbia).

1048. ROGERS, A. L., The Intelligence of Women Graduates of Colleges of Liberal Arts Entering the Teaching Profession. *Sch. and Soc.*, 1924, **19**, 201–202.

The intelligence of graduates of a college of liberal arts who select teaching as a career is compared with those who do not select teaching. The Thorndike Mental Alertness tests were used with one group and the Thorndike Intelligence Examination with another. The results seem to show that women choosing teaching represent a random sample of college graduates in intellectual power. There seems to be no evidence of a tendency for inferior capacity to be drawn into the profession of teaching. The determining factors are probably not intellectual but based upon such interests as a strong liking for children and for working with persons rather than with things. R. PINTNER (Columbia).

1049. ALLEN, W. O., Who Shall Go to College? *Sch. and Soc.*, 1924, **19**, 230–232.

Reports a survey of the seniors in nineteen selected schools by means of the Brown University Psychological Examination. Using Colvin's criteria for good college risks, the author finds that 28 per cent of the seniors are good college risks. He finds that the scores for Lafayette students are somewhat lower than those for Brown. The median scores of the Massachusetts survey and the Pennsylvania survey are practically identical. The survey further shows that 28 per cent of the boys and 26 per cent of the girls not planning to go to college are good college risks on the basis of the psychological examination. R. PINTNER (Columbia).

1050. MACPHAIL, A. H., Freshman Academic Achievement in College of Students Presenting Four Years of Latin and Those Presenting No Latin. *Sch. and Soc.*, 1924, **19**, 261–262.

Latin and non-Latin freshmen were paired as to percentile standing on a composite of the Brown and Thorndike intelligence tests. There were twenty-seven pairs. Those who had previously had four years of Latin obtained a mean academic rating of 79, while the non-

Latins obtained a mean of 76. The difference of 3 is 2.3 times the probable error. The academic work of these two types of freshman is very similar. R. PINTNER (Columbia).

1051. LAIRD, D. A., A Study of Some Factors Causing a Disparity Between Intelligence and Scholarship in College Students. *Sch. and Soc.*, 1924, **19**, 290–292.

A study of the correlations between scholarship and intelligence in several carefully selected college groups reveals several sources of the disparity in similar correlations when a total student body is used. The standard group gives a correlation of .49, while other groups show correlations as follows: indolent students .34, diligent students minus .05, women students having many "dates" .13, having no "dates" .43, in love .20, engaged .00, working for board .53, and so forth. R. PINTNER (Columbia).

1052. FEINGOLD, G. A., Intelligence of the First Generation of Immigrant Groups (A Study and a Critique). *J. of Educ. Psychol.*, 1924, **15**, 65–82.

Ever since the Army Alpha tests have brought out certain apparent startling differences among racial groups educators and congressmen have become alarmed at the possible inferiority of our future immigrants. The present immigration laws are proof that no uncertain fear was evoked following the publication of the data. This survey points out that American-reared children of foreign parents do not portray any amazing decrease in their intelligence as it is tested to-day compared with that of "American" children. The author corroborates the work done by several eminent investigators, especially Dr. Pintner, who showed contrary to Brigham (who assumes a good deal in his distributions) that Jewish children ranked just as high as American white children. The first important conclusion drawn from the investigation is that American-reared children of foreign-born parents show insignificant mental differences among themselves. Second, American-reared children of foreign-born parents show a mental difference too small to be significant whether the freshman or junior grades are judged. Third, Jewish children of high school age have about the same mental rank as the American children in the freshman year and are a few points below in the junior year. One should be sure that his investigations are purely from a scientific standpoint to be of scientific value. The evidence is coming in fast to show that the Army Alpha tests do not

tell the whole story. To safeguard our American unanimity it is of utmost importance that investigators and those who attempt guesses will "take more than a half-view of the psychophysical makeup of alien races" and above all will not deny facts when they are presented. G. M. MICHAELS (Columbia).

1053. THORNDIKE, E. L., Mental Discipline in High School Studies. *J. of Educ. Psychol.*, 1924, **15**, 83–98.

This is a continuation of the work reported in the January number of the *Journal*. The conclusions to be drawn from the data are startling in more than one way. The mind does not show a large improvement from the study of one subject as compared with another. When good thinkers studied Greek and Latin they were good thinkers because of that. When they studied trigonometry and physics these studies made good thinkers. Let the more able student study dramatic arts and physical education and these studies would tend to aid him. Get the positive correlation between the initial ability and the gain in any study and there is no outstanding result in favor of one or another. G. M. MICHAELS (Columbia).

1054. SYMONDS, P. M., A Study of Extreme Cases of Unreliability. *J. of Educ. Psychol.*, 1924, **15**, 99–106.

The two forms of the National Intelligence are used to find out the possible causes of unreliability in different tests. The author believes that some training in taking tests should be given so that the pupils might know the significance of the directions. It is shown that the general condition of the individual has no influence on the results of testing under ordinary school conditions. Pupils who do poorly on one test in relation to their ability do very well on another test. Differences in the speed of work, and differences in accuracy are the causes of unreliability. The differences are due to slowness in getting the mechanical operations of the test, inability to understand the mental processes necessary, failure to become adjusted to taking the test. G. M. MICHAELS (Columbia).

1055. REED, H. B., Part and Whole Methods of Learning. *J. of Educ. Psychol.*, 1924, **15**, 107–115.

The evidence in favor of part and whole learning is about equally divided. Although the author tends towards accepting the part method as somewhat superior, he stands on firm ground when he

states "the most economical method of learning is in the last analysis a question for the individual learner."

The work is divided into three groups. The first deals with four experiments on prose and poetry using single individuals. The second includes the study of a group experiment of the part and whole methods of reading in the retention of prose material. The third undertakes experiments with a large number of individuals in learning poetry. The conclusions to be drawn from the data is that most experiments are in favor of the part method. Ebert and Meuman's work repeated showed the results to be in favor of the part method. In the group experiment the part and whole methods were about equally effective. In memorizing poetry a group of 113 college students learned quickest when using the part progressive method; the part method was next in time saved; the whole method stood last. The author's claim for the part method as being superior is that the material is better adjusted to the students' attention. G. M. MICHAELS (Columbia).

1056. LAIRD, D. A., A Note on the Shortening of Examinations. *J. of Educ. Psychol.*, 1924, **15**, 116–117.

Correlations are submitted to show that an objective examination of twenty questions is just as reliable as an examination four times as long. Although the correlations increase with an increase in the number of questions it is problematical whether the small rise in correlation warrants a greater expenditure of time. G. M. MICHEALS (Columbia).

1057. WILSON, G. M., Note Concerning a T-Scale for Wilson Language Error Tests. *J. of Educ. Psychol.*, 1924, **15**, 118–119.

On the returns of 485 twelve-year-old children a T-scale is worked out for language error tests. Those interested in the method and its value are referred to McCall's "How to Measure in Education." G. M. MICHEALS (Columbia).

1058. ASKER, W., The Reliability of Tests Requiring Alternative Responses. *J. of Educ. Research*, 1924, **9**, 234–240.

It is shown that "true-false" tests and tests with alternative responses are practically safe so far as guessing in the entire test is concerned. The person who is absolutely ignorant about the subject

matter has a very small chance of making a passing score. But a more reliable method of scoring must be found than that used at present. "The effect of guessing is not eliminated in the majority of individual cases by subtracting the number of wrong answers, or a fraction thereof, from the number of right answers." S. W. FERNBERGER (Pennsylvania).

1059. RAND, G., The Use of the Correlation Graph with Half-Sigma Class Intervals. *J. of Educ. Research.*, 1924, **9**, 213–222.

The correlation graph is found to have many uses in the evaluation and interpretation of test data inasmuch as the class-intervals for the two arrays are directly comparable, assuming that the distributions approach the "normal" or a similar type. The individual cases can be compared with regard to their displacement to their regression lines. S. W. FERNBERGER (Pennsylvania).

1060. STEAD, H. G., The Correlations Between School Subjects. *Forum of Ed.*, 1923, **1**, 27–34.

Intercorrelationns between scholarship marks were obtained in two schools for a succession of five years. A high average coefficient may be taken to indicate the presence of a general factor or factors in school performance. There appear also to be certain specific factors characterizing various groups of subjects, these groups being defined as linguistic, manual, mathematical and literary. By means of the partial correlation technique it was shown that the r between subjects within a group could in some cases be reduced to zero when a common minor factor was kept constant, the correlation between algebra and geometry, for example, being dependent on arithmetical ability as a common factor. H. E. JONES (Columbia).

1061. BINNS, H., and MACPHERSON, W., An Experimental Inquiry Into School and Industrial Ability. *Forum of Ed.*, 1923, **1**, 133–139.

A series of form-board, cancellation and instruction tests was devised for the purpose of measuring industrial ability. School admission examinations showed a correlation of .21 with these tests, and .59 with tests of "scholarship intelligence" (analogies, completion, reasoning). For a group of thirteen schools the average correlation between "industrial" and "scholarship" ability was

.16, the coefficient being lowest in those schools where the standards were dominantly academic. It would appear that examinations for admission to secondary schools (in England) weight the more exclusively intellectual abilities, to the disadvantage of motor skills. H. R. JONES (Columbia).

1062. DUFF, J. F., and THOMSON, G. H., The Social and Geographical Distribution of Intelligence in Northumberland. *Brit. J. of Psychol., Gen. Sec.*, 1923, **14**, 192–198.

The scores of 13,419 children between eleven and thirteen years of age who had taken an intelligence test in the elementary schools of Northumberland were grouped according to their parents' occupation. The results in terms of average intelligence quotients are given, both for the specific occupations found, and for groupings of similar occupations. A division of the occupations into those primarily involving brain work and hand work, reveals the fact that the I.Q. of those whose parents were engaged in brain work is higher (106.6–98.6). A geographical distribution of the I.Q.'s shows that the children from residential suburbs are better than those from the city or more remote rural districts. J. E. ANDERSON (Yale).

1063. BAGLEY, W. C., The Army Tests and the Pro-Nordic Propaganda. *Educ. Rev.*, 1924, **67**, 179–187.

A criticism of the interpretation which Brigham gives the Army Mental Tests. When one considers the educational opportunities of the different groups, the differences in scores are trifling. S. W. FERNBERGER (Pennsylvania).

1064. BIXBY, H. D., Organizing Classes for Gifted Children. *Educ. Rev.*, 1924, **67**, 196–199.

Discussion of the tests used and the facts considered in selecting children for the gifted classes in Cleveland. S. W. FERNBERGER (Pennsylvania).

1065. BALDWIN, B. T., The Grouping of Pupils by Abilities in Elementary and High Schools. *Univ. of Penn. Bull.*, 1923, **23**, 50–62.

A consideration of the factors which should be considered in school promotion. There are eight general groups of facts to be considered: (1) marks and judgments of teachers, (2) achievement

ratings in the various school subjects, (3) psychological ratings, (4) physical and health ratings, (5) physical growth records, (6) physical achievement tests, (7) dental ratings, and (8) nutritional status and health habits. S. W. FERNBERGER (Pennsylvania).

1066. ADAMS, E. W., A Study of Continuation School Pupils. *Univ. of Penn. Bull.*, 1923, **23**, 189–200.

A study of children in continuation schools. The principal reasons for leaving schools are earnings needed at home, tired of school work, and wanting money. The ages and grades for leaving school are considered. S. W. FERNBERGER (Pennsylvania).

1067. REEDY, C. M., Can Intelligence Tests Help to Solve the Continuation School Classification Problem? *Univ. of Penn. Bull.*, 1923, **23**, 277–281.

Continuation school classes should be organized on the basis of mental test scores rather than on the basis of the grade formally attained in the regular schools. S. W. FERNBERGER (Pennsylvania).

1068. CLARK, J. R., Standard Tests in Algebra. *Univ. of Penn. Bull.*, 1923, **23**, 341–346.

Discussion of some of the uses and limitations of the algebra tests in common use. S. W. FERNBERGER (Pennsylvania).

1069. MINNICK, J. H., Standard Tests in Geometry. *Univ. of Penn. Bull.*, 1923, **23**, 346–349.

Discussion of the Sanford test with the conclusion that it only tests the ability to demonstrate theorems. S. W. FERNBERGER (Pennsylvania).

1070. NICHOLLS, E. E., Performances in Certain Mental Tests of Children Classified as Underweight and Normal. *J. of Compar. Psychol.*, 1923, **3**, 147–179.

Underweight and normal children show no significant differences in the opposites association test and in memory-span for digits. Both groups of children give essentially like results in time scores and accuracy records in the number-work or attention test. In even the motor coördination test the differences between the two groups is too small to be significant. But in the steadiness, tapping, and strength-of-grip tests the normal children are far superior to the

underweight children; this result was plainly evident also for the endurance test. The onset of fatigue is most rapid with the underweight children. H. R. CROSLAND (Oregon).

1071. STALNAKER, E. M., A Comparison of Certain Mental and Physical Measurements of School Children and College Students. *J. of Compar. Psychol.*, 1923, **3**, 181–239.

An extended and valuable review of the literature concerning the relationship or relationships existing between degrees of intelligence and physiological development, and presenting a long bibliography of 120 references. The general conclusion arrived at by the author is to the effect that none of the various standards, such as vital-index formulæ, weight-height schemes, *et cetera, et cetera,* can be safely and reliably used at the present time except in a very tentative and experimental-clinical fashion. H. R. CROSLAND (Oregon).

1072. STALNAKER, E. M., A Comparison of Certain Mental and Physical Measurements of School Children and College Students. II. *J. of Compar. Psychol.*, 1923, **3**, 431–468.

One hundred thirty-five pupils in a private school from fifth grade through high school, 425 public school pupils from seventh grade through senior high school, and 64 college freshmen were used as subjects. Form B of the Thorndike Test was administered to the college students, the Otis Group Intelligence Test to the tenth-graders and high school pupils, and Form A of the National intelligence Test was administered to the private school and junior high school pupils. Of the Hopkins Tests, tests on attention, substitution, memory, and omissions and discoveries of printed letters were chosen for specific study and measurement. The physical measurements consisted of measurements of weight, standing height, trunk length, circumference of chest, and vital capacity. Correlations between intelligence scores and height-weight ratios were low; also coefficients, obtained by correlating percentage deviations with the Hopkins Tests, were low, although when a larger relation was evident the underweight child or youth had the relative superiority. Except in two cases, the fatigue element was not shown to predominate over the practice element; the underweight group of subjects was shown not to suffer more than the normal group from fatigue or interference. Adolescents exceeded in height and weight

the norms established by other and previous investigators. The author concludes that there is no demonstrable relation between physical development, as measured by height-weight ratios of certain accepted standards, and mental development, although maintaining that this does not remove the possibility of the existence of a relationship between the two forms of development, inasmuch as the physical development standards seem to be most at fault and seem not very reliable. H. R. CROSLAND (Oregon).

1073. RUGG, H., Curriculum-Making: What Shall Constitute the Procedure of National Committees. *J. of Educ. Psychol.*, 1924, **15**, 23–42.

He discusses (does not compare) the reports of thirteen teachers of mathematics, experts in teaching, who are members of the National Committee of Mathematical Requirements, and the Psychology of Algebra investigated by Dr. Thorndike, and five co-workers in the Institute of Educational Research of Teachers College, experts in the analysis of psychological and social questions. There is brought out in this discussion an apparent fallacy that committees make in studying a problem by almost entirely neglecting an objective analysis of the situation at hand. The National Committee has erred in this respect as many others have done before them although " in no subject has so complete, so forward-looking a report come from the work of a national committee." To have made the report so much more valuable facts should have been obtained of the body of pupils for which the curriculum was made; what to teach and why it should be taught. The National Committee has mapped out a program as it has seen fit from *its* point of view, but with rather scant objective evidence. For a committee to accomplish as much as is humanly possible all the facts in the case should be made use of. It must act as a deliberative body of specialists to discuss educational aims; it must investigate the social and psychological needs without which the curriculum is at a loss; and it should be a national committee to act as a clearing-house where controversies can be taken care of and adjusted. G. M. MICHAELS (Columbia).

1074. CHASSELL, C. F., The Army Rating Scale Method in the Kindergarten. *J. of Educ. Psychol.*, 1924, **15**, 43–52.

What is the practicability of the army rating scale as an adequate means to measure a pupil's fitness for promotion? This was tested

in 1921–22 on four kindergarten groups in the Horace Mann School. The final ratings of each child (except in a few cases) were the result of three independent ratings. Those who used the scale were made thoroughly familiar with it before being allowed to use it. These same people were also very well acquainted with the children they graded. The ratings given each child included a rating for each of the following: habits of work, participation, coöperation, and responsibility. The average rating for the 54 pupils rated are 64.1 with a P.E. 8.38. G. M. MICHAELS (Columbia).

1075. THORNDIKE, E. L., BREGMAN, E. O., and COBB, M. V., The Selection of Tasks of Equal Difficulty by a Consensus of Opinion. *J. of Educ. Res.*, 1924, **9**, 133–139.

After comparing the subjective estimates of tasks of different difficulty with objective tests of performance, the authors conclude: "The concept of difficulty has a certain unity of meaning in the mind of psychologists; and there is justification for rating the difficulty of tasks by opinion." S. W. FERNBERGER (Pennsylvania).

1076. ROBERTS, L. J., Teaching Children to Like Wholesome Foods. *Hygeia*, 1924, **2**, 135–141.

Practical and illustrated discussion of the development of likes in children. D. A. LAIRD (New Haven).

1077. WOOLEY, H. T., Overcoming Contrariness and Fears in Children. *Hygeia*, 1924, **2**, 164–169.

Report of observations made at Merril-Palmer school in Detroit on children under five. D. A. LAIRD (New Haven).

1078. STEARNS, A. W., Detection of the Psychopath and Classification of Naval Recruits in Accordance with Their Intelligence. *U. S. Naval Med. Bull.*, 1924, **30**, 149–169.

The methods and results of author's examinations of naval recruits during the World War. Stearns intelligence test given in appendix. D. A. LAIRD (New Haven).

12. MENTAL EVOLUTION

1079. BRITTON, S. W., The Effects of Extreme Temperatures on Fishes. *Amer. J. of Physiol.*, 1924, **67**, 411–421.

An attempt is here made to determine the higher and lower limits of temperature at which widely varying types of fishes may still

maintain life, and to ascertain the effects of these temperature extremes upon various vital functions, such as heart and breathing rates, reflex action, etc. Many species of fishes survive exposure to water one or two degrees below zero for one to several hours, during which period all vital activities gradually diminish and finally disappear. The heart-beat is the last to disappear and it stops in diastole. The fish appears stiffly frozen and altogether lifeless, but Elasmobranch fishes withstand exposure to cold better than teleosts. Fishes encounter little difficulty in water of 25 degrees, but show much distress at 30 degrees and death follows soon unless the water temperature is lowered. The fish may recover from exposure to high temperature after cessation of respiration and possibly of the heart-beat. The rate of the heart-beat is found to vary directly with the temperature of the surrounding water. M. J. ZIGLER (Princeton).

1080. OSLUND, R., A Study of Vasectomy on Rats and Guinea Pigs. *Amer. J. of Physiol.*, 1924, **67**, 422–443. M. J. ZIGLER (Princeton).

1081. DONALDSON, H. H., On Changes in the Relative Weights of the Viscera and Other Organs from Birth to Maturity—Albino Rat. *Amer. J. of Physiol.*, 1923, **67**, 1–21. M. J. ZIGLER (Princeton).

1082. MACHT, D. I., and TEAGRADEN, E. J., The Effect of Light on the Behavior of Rats After Injections of Quinin and Quinidin Sulphates. *J. of Pharmacol. and Exper. Therap.*, 1923, **22**, 21–34.

Direct sunlight did not affect the performance of rats trained in a circular maze; ultra-violet light had either no effect or a stimulating effect. The two drugs studied had no effect when the animal was in darkness, but when exposed to sunlight the performance was lowered. D. A. LAIRD (New Haven).

1083. MACHT, D. I., The Behavior of Rats After Injections of Bile Salts, Urea, Creatin, and Creatinin. *J. of Pharm. and Exper. Therap.*, 1923, **22**, 117–122.

Drugs were injected intraperitoneally into white rats trained in a circular maze. Bile salts increased time and errors, urea and uric

acid had no noticeable effect, while creatin and creatinin reduced time and errors. D. A. LAIRD (New Haven).

1084. MACHT, D. I., A Pharmacodynamic Analysis of the Cerebral Effects of Atropin, Homoatropin, Scopolamin, and Related Drugs. *J. of Pharm. and Exper. Therap.*, 1923, **22**, 35–48.

Drugs of the belladonna family when administered introperitoneally in large doses to albino rats trained in a circular maze were found to lower the performance while the performance improved when injected in small doses. Subcutaneously administered, the same drugs were followed by similar effects, but did not act as quickly. D. A. LAIRD (New Haven).

1085. MORE, A. B., The Function of the Brain in the Locomotion of the Polyclad Worm, *Yungia aurantiaca*. *J. of Gen. Physiol.*, 1923, **6**, 73–76.

"Coördinated swimming movements not dependent upon the presence of the brain," which functions normally to set the worm in motion by the delivery of peripheral stimuli to the swimming mechanism. D. A. LAIRD (New Haven).

1086. MAST, S. O., and PUSCH, L. C., Modification of Response in Amoeba. *Biol. Bull. Marine Biol. Lab.*, 1924, **66**, 55–59.

"When amoeba repeatedly comes in contact with a band of intense light the number of attempts to continue in the original direction decreases as the number of trials increases. This indicates that there is some change in amoeba that is analogous to what is called 'Learning' in the higher animals." D. A. LAIRD (New Haven).

1087. ALLEN, E., and DOISY, E. A., An Ovarian Hormone: Preliminary Report on Its Localization, Extraction, Partial Purification, and Action in Test Animals. *J. Amer. Med. Assn.*, 1923, **81**, 819–821.

Follicular fluid from the ovary of the sow produced estrus when injected into mice and rats in which double ovariectomy had been performed. Injections into rats soon after weaning hastened sexual maturity from twenty to forty days, and injections into spayed animals was followed by a development of the secondary sexual characteristics as well as estrus. Commercial ovarian extracts failed to

bring about similar results. The hormone in the follicular fluid appears not to be species specific. It appears to be necessary for the mating behavior of rats. D. A. LAIRD (New Haven).

1088. CENI, C., Der Einfluss der Sehkraft auf die Funktion des Hodens und auf die äusseren Geschlechtscharaktere. *Arch. f. Entwicklungsmech. d. Organ.*, 1922, **51**, 504–508.

Brain lesions experimentally produced in adult male chickens produced transitory changes in gonads and secondary sex characters. D. A. LAIRD (New Haven).

1089. LIDDELL, H. S., The Effect of Thyroidectomy on the Intelligence of Sheep. *Proc. Soc. of Exper. Biol. and Med.*, 1922, **19**, 423–425.

The brighter of twins in maze performance had thyroid removed; this was followed by inferior maze performance, especially in learning a new maze. D. R. LAIRD (New Haven).

1090. MAST, S. O., and PUSCH, L. C., Modification of Response in Amoeba. *Biol. Bull.*, 1924, **46**, 55–59.

Avertive reactions may be observed when an amoeba that has been dark-adapted encounters a beam of light focussed on a microscope slide. Several trials are usually required, however, before the organism completely reverses its direction of movement. In the case of five amoebæ observed under experimental conditions, the number of trials required to establish a definite negative orientation diminished one-half as a result of fifteen trial-and-success series, the effect persisting during a twenty-four-hour period of no practice. A repetition of the experiment with two additional individuals gave similar results. The authors regard this behavior modification as analagous to "learning" in the higher animals. H. E. JONES (Columbia).

1091. BINGHAM, H. C., Visual Perception of the Chick. *Behavior Mono.*, 1922, **4**, No. 4.

Includes an historical account of the origin of the domestic fowl and a critical review of the experimental literature on vision in the chick. The experiments reported were made with about thirty chicks belonging to four different groups, two of which were

secured from poultry breeders, the other two being artificially incubated in the laboratory, the latter proving on the whole more satisfactory. The chicks were Barred Plymouth Rocks, with the exception of two, which were of the White Plymouth Rock variety. The primary task was "that of determining the least perceivable difference in detail vision." The work of Breed and the work of Katz and Révész had indicated the possibility of discrimination by chicks on the bases of size and form; this work was undertaken to determine the threshold of discrimination for these factors. Added to this consideration, however, are chapters, one each, on flicker perception, problem learning, and ideational behavior, the last indicating that the chick may discriminate upon the basis of relative stimulus difference or relative size difference, as well as upon that of specific stimuli. The matter of standardization or differentiation of meanings for the terms size, form, and shape is dealt with. "The order of importance of the visual factors which have been studied, it would seem, is size or flicker, the brightness and general illumination complex, and form." H. W. MARTIN (North Carolina).

1092. COBURN, C. A., Heredity of Wildness and Savageness in Mice. *Behavior Mono.*, 1922, **4**, No. 5.

An extension of the work by Professor Yerkes on the hereditability of savageness, wildness, and timidity in rats. This more complete investigation employed some 1,300 animals, consisting of wild mice, tame mice, and hybrids of the first, second, and third generations, and covering a period of about three and a half years. The testing for and the rating of these traits consisted of observing the behavior of the mice when being caught, when held by the tail and kept upon the palm of the hand, and upon being released into the cage; one of six grades, from 0 to 5, being assigned at each testing. In general the average grades of wildness and savageness obtained in the second generation was lowered, and in the third generation the average grades rose again almost to the height obtained in the first. Females showed higher average grades of wildness and savageness than males. The work also shows that the traits are influenced to some extent by the age of animals, by the frequency and number of the tests, and by the presence of the experimenter. Some observations of "singing" on the part of wild mice were noted with the females. H. W. MARTIN (North Carolina).

1093. STONE, C. P., A Note on "Feminine" Behavior in Adult Male Rats. *Amer. J. of Physiol.*, 1924, **68**, 39–41.

Observations of male rats which respond to the copulatory attempts of other males in a manner characteristic of normal females and some suggestive questions, which when answered may explain this atypical mode of behavior. M. J. ZIGLER (Princeton).

1094. MAXWELL, S. S., The Effect of Habituation on the Rotation-nystagmus as Compared with the After-nystagmus in the Rabbit. *Amer. J. of Physiol.*, 1924, **68**, 125–126.

After-nystagmus in the rabbit has already been shown to decrease with habituation. In a few days the after-nystagmus becomes negligible or entirely disappears and at this point the rotation-nystagmus appears normal. The present investigation attempts to study the relationship existing between after-nystagmus and rotation-nystagmus. The results show a temporal disjunction of the two phenomena; at the time when the after-nystagmus disappears, rotation-nystagmus usually has not reduced as much as 50 per cent. Individual differences in after-nystagmus are much greater than in rotation-nystagmus in rabbits not previously subjected to rotation. It is concluded that "the amount and duration of after-nystagmus is no reliable indication of functional activity of the equilibrium apparatus." M. J. ZIGLER (Princeton).

1095. KITTREDGE, E., Some Experiments on the Brightness Value of Red for the Light-Adapted Eye of the Calf. *J. of Compar. Psychol.*, 1923, **3**, 141–145.

Using the method Washburn once used on rabbits, the investigator sought to ascertain whether or not red has a low stimulation-value for the retina of the new-born Holstein-Jersey calf. She discovered that the calf acquired, very quickly, the habit of discriminating Bradley saturated red from Hering grey number 5, and that discrimination of this red from a darker grey (number 15) was much less perfectly attained. The latter discrimination could be acquired only with great difficulty, if at all, inasmuch as the animal relapsed into discrimination by position-habits and displayed apparent indifference or irritation to being bothered. Red as a color seemed to be of slight significance in the behavior of the calf. H. R. CROSLAND (Oregon).

1096. Sadovinkova, M. P., A Study of the Behavior of Birds in the Maze. *J. of Compar. Psychol.*, 1923, **3**, 123–139.

Birds are shown to be able to learn to traverse the correct route in the Hampton Court maze in 20 to 40 or 50 trials, and in this learning they proceed chiefly by sight. Specific details of the maze are not remembered except as present in the manner of the distribution of light and shadows in the alleyways. Smell and touch had small, if any, influences on the learning, while kinesthetic experiences or cues played a very significant rôle in learning even after visual guidance had apparently disappeared. A drawing of the maze and five figures of graphic results are presented in the article. H. R. Crosland (Oregon).

1097. Hentig, H. v., Reactions of Animals to Changes in Physical Environment. *J. of Compar. Psychol.*, 1923, **3**, 61–71.

As prophets of the oncoming of an earthquake, dogs and cats make fine seismographs. The howling of dogs and their restlessness, or their stuporous lethargy are indicative signs of an imminent quake, as also are the reactions of foxes, horses, goats, sheep, and pigs. Birds are greatly affected by thunderstorms and earthquakes. Fish are greatly agitated before an earthquake, and indeed many fish are killed during the quake. Thunderstorms kill fish, and the electric eel also kills fish and frogs in his vicinity. Mice, rats, moles, lizards, and snakes leave their holes and wander restlessly before earthquakes. Insects, particularly ants and crickets, are strongly affected by seismic disturbances. The quake affects the motor apparatus of the organism, the vasomotors, the plumage, the lung and heart, and the endocrines of inner secretion. It is not impossible that the electric phenomena during the quake act as stimuli to various of the animal's organs. H. R. Crosland (Oregon).

1098. Reese, A. M., Some Reactions of Alligator *Mississippiensis*. *J. of Compar. Psychol.*, 1923, **3**, 51–59.

Six alligators were submitted to waters of different temperatures, to light and darkness, to fresh and sea water of equal temperatures, to various chemical olfactory stimuli, to various sorts of food presented olfactorially, visually, and visually by motion, and to gravity. The animal seems to prefer water 25 degrees centigrade for his habitation. Dark places are sought more frequently than lighted places, although no orientation was made to the source of the light. No dif-

ference was discovered in the organism's "preference" for sea water as opposed to fresh water. There were no reactions to the olfactory stimuli of *oil of organum, oil of wintergreen, oil of thyme, kerosene,* and *turpentine.* Violent reactions were made to *ammonia, chloroform, wood alcohol,* and *ether.* Slight reactions were made to *hydrochloric acid, carbolic acid, formalin, oil of cloves,* and *oil of cedar.* Vision seemed to be of no significance to the animal in its catching of its food, for it succeeded just as well in darkness as in light, and the most essential aid was the splashing movement made by the animal which the alligator sought to devour. Smell seemed to be of no significance in the pursuit and taking of food. The animal seemed to exhibit a negative tropism to gravity. H. R. CROSLAND (Oregon).

1099. KURODA, RYO, Studies of Audition in Reptiles. *J. of Compar. Psychol.,* 1923, **3**, 27–36.

Chlemys japonica is very sensitive to both visual and dermal stimuli but is quite insensitive to sound stimuli in the air or in water. *Tachydromus tachydromoides* responds regularly to sound stimuli by opening its eyes, and when unstimulated opens its eyes irregularly and at longer intervals of time. Certain thresholds of pitch and intensity are necessary to arouse this organism from its slumber-like eye-closure. The upper threshold of pitch for the lizard is approximately 10,000 D.V. with the Galton whistle, while the intensity or loudness upper limen is 60 grm./mm. at a distance of 70 cm. with Zoth's acoumeter. The paper has a bibliography of thirteen references. H. R. CROSLAND (Oregon).

1100. COWAN, E. A., An Experiment Testing the Ability of a Cat to Make Delayed Response and to Maintain a Given Response Toward a Varying Stimulus. *J. of Compar. Psychol.,* 1923, **3**, 1–9.

A six months old female Persian cat was used as the subject of delayed reaction tests on each of sixty-three days with ten trials daily. The special features of this research consisted in the use of the home in which the cat lived, the living room, dining room, and kitchen being used as a problem box. Periods of delay, between the stimulus of a person carrying food in a platter or of a person's appearing in the doorway or of a person's audible footsteps near the doorway, leading from the dining room to the kitchen, and the cat's

being liberated from her owner's grasp or from under a paper basket were ten, twenty, twenty-five and thirty seconds (except in cases where the cat herself increased this amount of time to forty or more seconds). The net results of the investigation were that, notwithstanding the delay, the cat correctly went to the food plate under the kitchen stove in the majority of cases, and the shorter the delay the larger was the number of correct reactions; variations in the stimulus still led to the old response; and delays by the cat herself, and the variations in her own orientations and adjustments during such delays, did not prevent the culmination of the correct responses. The greatest deviation from correct reactions came in response to the sounds of the experimenter's exit from a side door when she had not shown herself at the dining room door but when she had made herself audible there as a stimulus for the cat's trip to the food platter under the stove. The article does not describe the cat's previous place of feeding, and if the feeding place had previously been in the kitchen or had been under the stove, this fact would have great bearing upon the success of such a home-made puzzle-box and such a home-tried technique. The most significant point of the results is that an animal can carry over in itself during the period of delay that which guides the response or that which selects from a new complex of stimuli those cues which guide a response to its successful issue. H. R. CROSLAND (Oregon).

1101. PARKER, G. H., The Instinctive Locomotor Reactions of the Loggerhead Turtle in Relation to Its Senses. *J. of Compar. Psychol.*, 1922, 2, 425–429.

Immediately after birth (hatching) the young loggerhead turtle (*Caretta caretta* Linn.) is active and usually takes a direct course to the sea from its sandy nest. When, however, he is put in an aquarium of seawater he assumes a new set of responses which are stereotyped though novel. The swimming on top of the water, in the latter case, is much like crawling, while the swimming below the surface is like what is termed the "submarine flight." If the young turtle is held horizontally in the air by the thumb and forefinger of the investigator it at once begins flight movements by its front flippers. In swimming it maintains a balanced position, back up and ventral side down, and if thrown into a laterally one-sided position will immediately right itself by unsymmetrical movements of its anterior flippers. Rapid reversals by the investigator of the position of the turtle from left side down to right side down are immediately

followed by symmetrical reversals with surprising regularity and quickness on the part of the turtle, indicating the presence of ready-made machine-like responses even though the turtle has just been hatched. It is of interest to ascertain what sense organs function to receive stimuli for the excitation of these ready-made reactions. It is demonstrated that the cutaneous and visual sense organs have no influence, and by extirpation that the ear (the semi-circular sense organs, as in the case of the crayfish?) is the organ concerned in this stimulation. H. R. CROSLAND (Oregon).

1102. MANNING, F. B., Hearing in Rattlesnakes. *J. of Compar. Psychol.*, 1923, **3**, 241–247.

Measuring the auditory sensitivity of rattlesnakes by the two criteria—response by rattling and response by protrusion of the tongue—and using as sound-stimuli buzzes of a telephone receiver with D.V. frequencies of 43, 86, 172, 344, 688, 1376, and 2752 with the receiver located at a distance of 30 cm. from one side of the head of an animal, the author has concluded that hearing is very defective in rattlesnakes (*Crotalus, Sistrurus,* and *Ankistrodon*). One snake (*Crotalus atrox*) gave evidence of hearing a stimulus of 86 D.V. and another stimulus of 344 D.V. The author doubts if one rattler ever heard the rattle of another snake, or for that matter, ever heard its own rattle except through body conduction. H. R. CROSLAND (Oregon).

1103. SADOVINKOVA, M. P., A Study of the Behavior of Birds by the Multiple Choice Method. *J. of Compar. Psychol.*, 1923, **3**, 249–282.

By submitting three serins, two canaries, and one bullfinch to the problems worked out by Yerkes in his multiple-choice technique (see bibliography contained in this paper), the investigator discovered that the serin "Little" and the bullfinch "Anaxagore" were geniuses and learned the problems quickly, giving evidence (to the investigator) of the using of ideas or images. The bullfinch is said to have carried simultaneously two associations while the serin "Little" is said to have carried simultaneously three associations. This work is in line with the view of Yerkes determined by his work on the geniuses among monkeys and apes, and with some of the findings of both Burtt and Bagg in their work upon mice. H. R. CROSLAND (Oregon).

1104. HOLSOPPLE, J. Q., Factors Affecting the Duration of Post-Rotation Nystagmus. *J. of Compar. Psychol.*, 1923, **3**, 283–304.

A very valuable review of the literature, containing a long bibliography of thirty-five references, upon the physiological factors affecting nystagmus, the methods of stimulating nystagmus, and the technique of measuring nystagmus when it occurs. The conditions listed as having effects upon nystagmus are: the general physiological condition produces variations in nystagmus, but the more specific causes of these irregularities are at present uncertain. Continued rotation, or successive rotations change nystagmus in several particulars which as yet have not been determined. Practice results in a diminution in the duration of the nystagmus. Rest or failure to practice results in recovery, but the length of this period of time is unknown. Rotation in one direction produces a slight effect upon the post-rotation nystagmus of the opposite direction, presumably by reason of factors other than that of the "transfer of training." H. R. CROSLAND (Oregon).

1105. BROWN, W., and WHITTELL, F., Yerkes' Multiple Choice Method with Human Adults. *J. of Compar. Psychol.*, 1923, **3**, 305–318.

After using the method, and the seriated problems of Yerkes, upon bright and dull college students, the investigators conclude that the problems are not evenly graded into series. They revised the problems and worked out a new set in their laboratory which, though still unevenly graded, present no confusing sequences. Under punishment the best college students can solve all of the eleven series of problems in five twenty-minute periods; dull students require a much longer period of time. It is found that the method is a most effective one when the purpose is one of measuring the quantity of mental work of a high order accomplished by human beings. The writers believe that the method possesses unlimited possibilities for comparing the mentality of animals and children and abnormal subjects with that of normal adult humans. H. R. CROSLAND (Oregon).

NOTES AND NEWS

We announce with regret the resignation of Professor Walter S. Hunter as coöperating editor of the Bulletin, with which he has been connected for ten years. Dr. W. T. Heron, of the University of Kansas, has been appointed in the place of Professor Hunter and has consented to serve as coöperating editor in charge of the field of animal psychology.

The second Kongress für Heilpädagogik was held at Munich from July 29 to August 1.

The foundation of an institute for psychological research devoted to the study of fundamental problems of human behavior has been announced at Yale University. The funds have been provided for a period of five years by the Laura Spelman Rockefeller Memorial. Professor Roswell P. Angier, of Yale University, is to be chairman of the Institute. Arrangements have been made for bringing the following men to the Institute: Dr. Robert M. Yerkes, formerly of the National Research Council, will have charge of the work in comparative psychology, especially with the primates; Dr. Raymond Dodge, of Wesleyan University, will have charge of the work in the fundamental aspects of normal behavior; and Dr. Clark Wissler, of the American Museum of Natural History, will cover the work in the fields of racial, and particularly primitive, human behavior in its cultural and social aspects. It is also announced that other experts will be appointed later.

Dr. Shepherd Ivory Franz has resigned his positions at St. Elizabeths Hospital and George Washington University and will be associated with the department of psychology of the University of California, Southern Branch, Los Angeles, Calif.

At McGill University, Montreal, psychology has been constituted a department separate from philosophy. Dr. William D. Tait has been promoted from Associate professor to be chairman of the department and director of the psychological laboratory.